### STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

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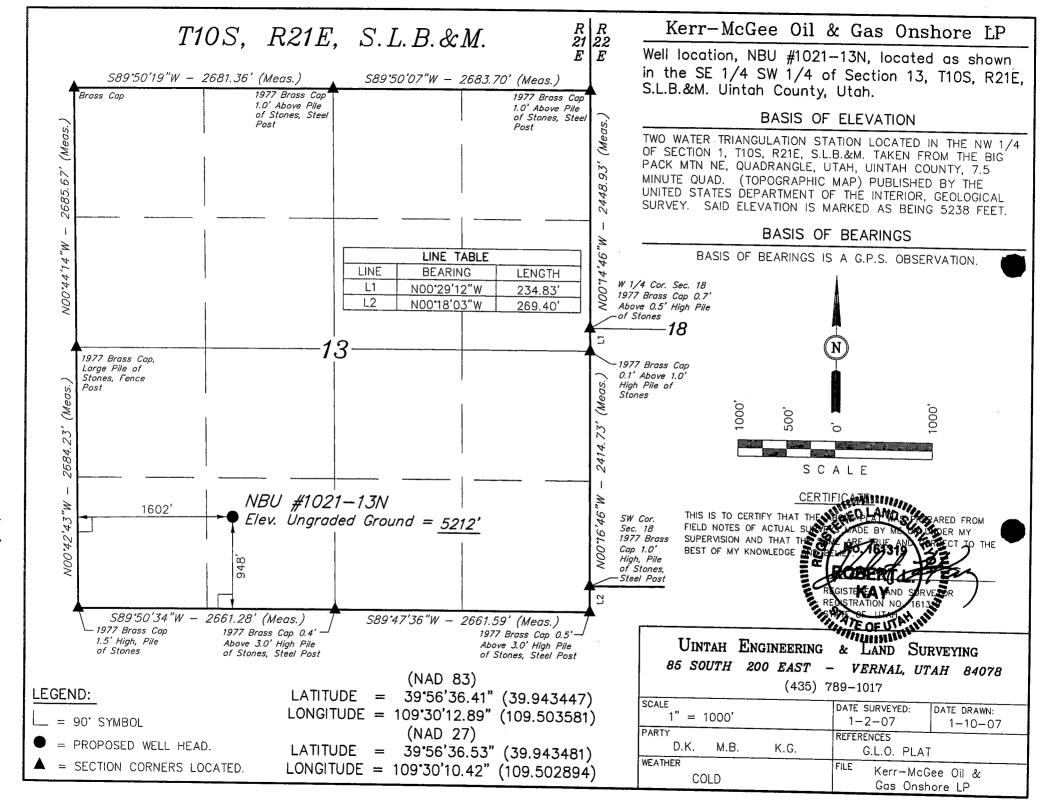
AMENDED REPORT (highlight changes)

	-	APPLICA	TION FOR	PERMIT TO	DRILL	5. MINERAL LEASE NO: 6. SURFACE: ML-23608 State			
1A. TYPE OF WO	ork: D	RILL 🔽	REENTER [	DEEPEN		7. IF INDIAN, ALLOTTEE OR TRIBE NAME:			
B. TYPE OF WELL: OIL GAS OTHER SINGLE ZONE MULTIPLE ZONE UNIT #891008900A									
2. NAME OF OPE		GAS ONSE	HORFLP			9. WELL NAME and NUMBER: NBU 1021-13N			
3. ADDRESS OF OPERATOR: 1368 S 1200 E  OTTY VERNAL  STATE UT  ZIP 84078  PHONE NUMBER:  (435) 781-7024  NATURAL BUTTES									
4. LOCATION OF WELL (FOOTAGES)  AT SURFACE: 948'FSL, 1602'FWL  AT PROPOSED PRODUCING ZONE:  4. LOCATION OF WELL (FOOTAGES)  5. LOCATION OF WELL (FOOTAGES)  6.									
			EAREST TOWN OR PO	OST OFFICE:		12. COUNTY: 13. STATE: UTAH			
	ES SOUTH			16 NUMBER OF	ACRES IN LEASE:	UINTAH  17. NUMBER OF ACRES ASSIGNED TO THIS WELL:			
948'	0 142/1/2011 11/01	ENT ON LENG	- LINE (1 LL1)	TO. TVOIVIBLITY OF	640.00	40.00			
	O NEAREST WELL R) ON THIS LEASE		MPLETED, OR	19. PROPOSED	DEPTH:	20. BOND DESCRIPTION:			
REFER TO	Ó TOPO C				9,090	RLB0005237			
21. ELEVATIONS 5212'GL	S (SHOW WHETHE	R DF, RT, GR, E	TC.):	22. APPROXIMA	ATE DATE WORK WILL START:	23. ESTIMATED DURATION:			
24.			PROPOS	SED CASING AI	ND CEMENTING PROGRAM				
SIZE OF HOLE	CASING SIZE,	GRADE, AND W	EIGHT PER FOOT	SETTING DEPTH	CEMENT TYPE, QUA	NTITY, YIELD, AND SLURRY WEIGHT			
12 1/4"	9 5/8	32.3#	H-40	2,000	265 SX CLASS G 1	.18 YIELD 15.6 PPG			
7 7/8"	4 1/2	11.6#	I-80	9,090	1900 SX CLASS G 1	.31 YIELD 14.3 PPG			
		<del></del>		<del>*************************************</del>					
						· · · · · · · · · · · · · · · · · · ·			
25.	<u>!</u>			ΔΤΤΔ	CHMENTS				
	LOWING ARE AT	TACHED IN ACC	ODDANCE WITH THE		DNSERVATION GENERAL RULES:				
<del></del>					1 🗖				
			SED SURVEYOR OR E		COMPLETE DRILLING PLAN				
■ EVIDENO	CE OF DIVISION O	F WATER RIGHT	S APPROVAL FOR US	SE OF WATER	FORM 5, IF OPERATOR IS PE	RSON OR COMPANY OTHER THAN THE LEASE OWNER			
NAME (PLEASE	NAME (PLEASE PRINT) SHEILA UPCHEGO TITLE SENIOR LAND ADMIN SPECIALIST								
SIGNATURE	Muy	W	MILL	410	DATE 2/23/2007				
(This space for Sta	ite use only)			P	approved by the				
		r			Jtah Division of				
API NUMBER AS	SIGNED:	3-047-3	39/07	—— Oil	, Gas and Mining	RECEIVED			

(11/2001)

MAR 1 6 2007

DIV. OF OIL, GAS & MINING



### NBU 1021-13N SE/SW SEC. 13, T10S, R21E UINTAH COUNTY, UTAH ML-23608

### **ONSHORE ORDER NO. 1**

### DRILLING PROGRAM

### 1. Estimated Tops of Important Geologic Markers:

Formation	<u>Depth</u>
Uinta	0- Surface
Green River	1106'
Top of Birds Nest Water	1387'
Mahogany	1981'
Wasatch	4308'
Mesaverde	6972'
MVU2	7921'
MVL1	8524'
TD	9090'

### 2. Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

Substance	Formation Programme 1	<u>Depth</u>
	Green River	1106'
Water	Top of Birds Nest Water	1387'
	Mahogany	1981'
Gas	Wasatch	4308'
Gas	Mesaverde	6972'
Gas	MVU2	7921'
Gas	MVL1	8524'
Water	N/A	
Other Minerals	N/A	

### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program.

### 4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program.

### 5. <u>Drilling Fluids Program</u>:

Please refer to the attached Drilling Program.

### 6. <u>Evaluation Program</u>:

Please refer to the attached Drilling Program.

### 7. **Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 9090' TD, approximately equals 5636 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 3636 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

### 8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

### 9. <u>Variances:</u>

Please refer to the attached Drilling Program.

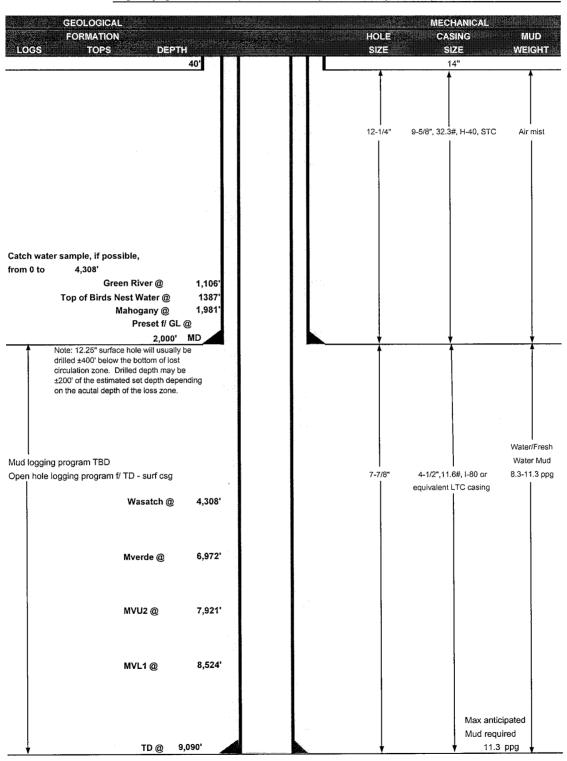
### 10. Other Information:

Please refer to the attached Drilling Program.



# KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPAN	IY NAME P	KERR-McGEE OIL & GAS O	NSHORE LP	DATE	February	February 23, 2007		
WELL NA	AME I	NBU 1021-13N		TD	9,090'	MD/TVD		
FIELD	Natural Butte	s COUNTY Uir	ntah STATE	Utah	ELEVATION	5,212' GL	KE	3 5,227'
SURFAC	E LOCATION	SE/SW SEC.13, T10S, R2	21E 948'FSL, 1602'	FWL			BHL	Straight Hole
		Latitude: 39.943447	Longitude: 109	9.503581				
OBJECTI	VE ZONE(S)	Wasatch/Mesaverde						
ADDITIONAL INFO Regulatory Agencies: UDOGM (SURF & MINERALS), BLM, Tri-County Health Dept.						· -		





### KERR-McGEE OIL & GAS ONSHORE LP

### **DRILLING PROGRAM**

#### CASING PROGRAM

								- 1	DESIGN FACT	ORS
	SIZE	IN	TERV/	4L	WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"		0-40'							
								2270	1370	254000
SURFACE	9-5/8"	0	to	2000	32.30	H-40	STC	0.68*****	1.46	4.49
							ľ	7780	6350	201000
PRODUCTION	4-1/2"	0	to	9090	11.60	I-80	LTC	2.33	1.19	2.18

- 1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point)
- 2) MASP (Prod Casing) = Pore Pressure at TD (.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD =

11.3 ppg)

.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

MASP 3341 psi

Burst SF is low but csg is much stronger than formation at 2000'. EMW @ 2000' for 2270# is 21.8 ppg or 1.13 psi/ft

#### CEMENT PROGRAM

		FT, OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1			+ .25 pps flocele			. **	
	TOP OUT CMT (1)	200	20 gals sodium silicate + Premium cmt	50		15.60	1.18
			+ 2% CaCl + .25 pps flocele				
	TOP OUT CMT (2)	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
SURFACE			NOTE: If well will circulate water to s	urface, op	tion 2 will b	e utilized	
Option 2	LEAD	1500	Prem cmt + 16% Gel + 10 pps gilsonite	170	35%	11.00	3.82
			+.25 pps Flocele + 3% salt BWOC	1 1 1 1			er.
	TAIL	500	Premium cmt + 2% CaCl	180	35%	15.60	1.18
			+ .25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTIO	N LEAD	3,800'	Premium Lite II + 3% KCI + 0.25 pps	420	60%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	ĺ				ļ.		
	TAIL	5,290'	50/50 Poz/G + 10% salt + 2% gel	1480	60%	14.30	1.31
	i		+.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe.								
PRODUCTION	Float shoe, 1 jt, float collar. Centralize first 3 joints & every third joint to top of tail cement with bow								
	spring centralizers.								

### ADDITIONAL INFORMATION

DRILLING SUPERINTENDENT:

DRILLING

Test casing head to 750 psi after installing. Test surface cas	ring to 1,500 psi prior to drilling out.
BOPE: 11" 5M with one annular and 2 rams. Test to 5,000 p	osi (annular to 2,500 psi) prior to drilling out. Record on chart recorder &
tour sheet. Function test rams on each trip. Maintain safety	valve & inside BOP on rig floor at all times. Kelly to be equipped with upper
& lower kelly valves.	
Drop Totco surveys every 2000'. Maximum allowable hole a	ngle is 5 degrees.
Most rigs have PVT Systems for mud monitoring. If no PVT is	s available, visual monitoring will be utililzed.
ENGINEER:	DATE:
Brad Laney	

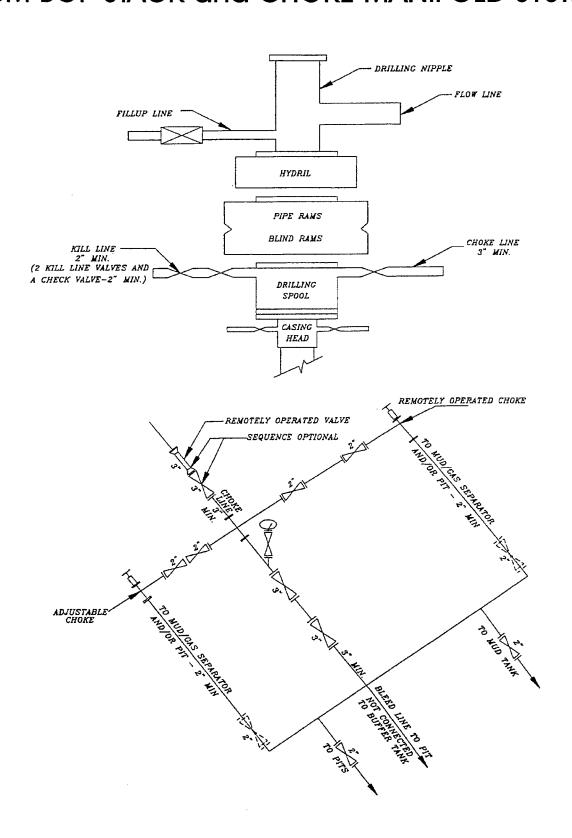
DATE:

Randy Bayne

NBU1021-13N DHD.xls

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

## 5M BOP STACK and CHOKE MANIFOLD SYSTEM



### NBU 1021-13N SE/SW SEC. 13, T10S, R21E Uintah County, UT ML-23608

### ONSHORE ORDER NO. 1

### MULTI-POINT SURFACE USE & OPERATIONS PLAN

### 1. Existing Roads:

Refer to Topo Map A for directions to the location.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

Refer to Topo Maps A and B for location of access roads within a 2 mile radius.

All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

### 2. Planned Access Roads:

Approximately 0.2 +/- miles of new access road is proposed. Refer to Topo Map B for the location of the proposed access road.

The upgraded and new portions of the access road will be crowned and ditched with a running surface of 18 feet and a maximum disturbed width of 30 feet. Appropriate water control will be installed to control erosion.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site.

The access road was centerline flagged during time of staking.

Surfacing material may be necessary, depending upon weather conditions.

Surface disturbance and vehicular traffic will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.

### 3. Location of Existing Wells Within a 1-Mile Radius:

Please refer to Topo Map C.

### 4. Location of Existing & Proposed Facilities:

The following guidelines will apply if the well is productive.

All production facilities will be located on the disturbed portion of the well pad and at a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike will be constructed completely around those production facilities which contain

fluids (i.e., production tanks, produced water tanks, and/or heater/treater). These dikes will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank, and be independent of the back cut.

All permanent (on-site six months or longer) above the ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the five state Rocky Mountain Inter-Agency Committee.

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The required color is Carlsbad Canyon, standard color number 2.5Y 6/2.

Any necessary pits will be properly fenced to protect livestock and prevent wildlife entry.

Approximately 940' +/- of 4" steel pipeline is proposed. Please refer to the attached Topo Map D for pipeline placement.

Approximately 2400' +/- of 4" steel pipeline is proposed from the proposed pipeline in Sec. 13, T10S, R21E to the proposed well location. Refer to the attached Topo Map D for pipeline placement.

### 5. <u>Location and Type of Water Supply:</u>

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32, T4S, R3E, Water User Claim #43-8496, Application #53617.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

### 6. Source of Construction Materials:

Surface and subsoil materials in the immediate area will be utilized.

Any gravel will be obtained from a commercial source.

### 7. Methods of Handling Waste Materials:

Drill cuttings will be contained and buried in the reserve pit.

Drilling fluids, including salts and chemicals, will be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated.

The reserve pit will be constructed on the location and will not be located within natural drainage, where a flood hazard exists or surface runoff will destroy or damage the pit walls. The reserve pit will be constructed so that it will not leak, break, or allow discharge of liquids.

A plastic reinforced liner and felt will be used, it will be a minimum of 20 mil thick, with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit.

Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical porta-toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash will be burned on location.

All debris and other waste material not contained in the trash cage will be cleaned up and removed from the location immediately after removal of the drilling rig.

Any open pits will be fenced during the operations. The fencing will be maintained until such time as the pits are backfilled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

Any produced water from the proposed well will be contained in a water tank and will then be hauled By truck to one of the pre-approved disposal sites: RNI, Sec. 5, T9S, R22E, NBU #159, Sec. 35, T9S, R21E, Ace Oilfield, Sec. 2, T6S, R20E, MC&MC, Sec. 12, T6S, R19E.

### 8. Ancillary Facilities:

None are anticipated.

### 9. Well Site Layout: (See Location Layout Diagram)

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

The reserve pit will be lined, and when the reserve pit is closed, the pit liner will be buried below plow depth.

All pits will be fenced according to the following minimum standards:

39 inch net wire will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.

The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.

Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

The reserve pit fencing will be on three sides during drilling operations, and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

Location size may change prior to the drilling of the well due to current rig availability. If the proposed location is not large enough to accommodate the drilling rig the location will be re-surveyed and a Form 9 shall be submitted.

### 10. Plans for Reclamation of the Surface:

Producing Location:

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1.

A plastic, nylon reinforced liner will be used, it shall be torn and perforated before backfilling of the reserve pit.

Before any dirt work associated with location restoration takes place, the reserve pit shall be as dry as possible. All debris in it will be removed. Other waste and spoil materials will be disposed of immediately upon completion of operations.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days from the date of well completion, weather permitting.

To prevent surface water (s) from standing (ponding) on the reclaimed reserve pit area, final reclamation of the reserve pit will consist of "mounding" the surface three feet above surrounding ground surface to allow the reclaimed pit area to drain effectively.

Upon completion of backfilling, leveling, and recontouring, the stockpiled topsoil will be spread evenly over the reclaimed area(s).

Dry Hole/Abandoned Location:

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and re-establishment of vegetation as specified.

All disturbed surfaces will be recontoured to the approximate natural contours, with reclamation of the well pad and access road to be performed as soon as practical after final abandonment. Reseeding operations will be performed after completion of other reclamation operations.

### 11. Surface Ownership:

SITLA 675 East 500 South, Suite 500 Salt Lake City, UT 84102

### 12. Other Information:

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, the approved Plan of Operations, and any applicable Notice of Lessees. The Operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The Operator will control noxious weeds along Rights-Of-Way for roads, pipelines, well sites, or other applicable facilities.

A Class III archaeological survey will be submitted when report becomes available.

This location is not within 460' from the boundary of the Natural Buttes Unit, nor is it within 460' of any non-committed tract lying within the boundaries of the Unit.

### 13. Lessee's or Operators's Representative & Certification:

Sheila Upchego Senior Land Admin Specialist Kerr-McGee Oil & Gas Onshore LP 1368 South 1200 East. Vernal, UT 84078 (435) 781-7024 Randy Bayne Drilling Manager Kerr-McGee Oil & Gas Onshore LP 1368 South 1200 East Vernal, UT 84078 (435)781-7018

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by State Surety Bond #RLB0005237.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by the Operator, its contractors, and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Muk Inply Sheila Upchego

2/23/2007

Date

### Kerr-McGee Oil & Gas Onshore LP NBU #1021-13N SECTION 13, T10S, R21E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY. THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 11.2 MILES ON THE SEEP RIDGE ROAD TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 7.5 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION APPROXIMATELY 1.6 MILES TO THE BEGINNING OF THE PROPOSED ACCESS FOR THE #1021-13C TO THE NORTHEAST; FOLLOW ROAD FLAGS IN A NORTHEASTERLY DIRECTION APPROXIMATELY 190' TO THE BEGINNING OF THE PROPOSED ACCESS FOR THE #1021-13K TO THE SOUTHEAST; FOLLOW ROAD FLAGS IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 0.45 MILES TO THE BEGINNING OF THE PROPOSED ACCESS TO THE SOUTH; FOLLOW ROAD FLAGS IN A SOUTHERLY, THEN EASTERLY DIRECTION APPROXIMATELY 0.2 MILES TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 52.0 MILES.

### Kerr-McGee Oil & Gas Onshore LP

### NBU #1021-13N

LOCATED IN UINTAH COUNTY, UTAH SECTION 13, T10S, R21E, S.L.B.&M.



PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHERLY



PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: SOUTHERLY



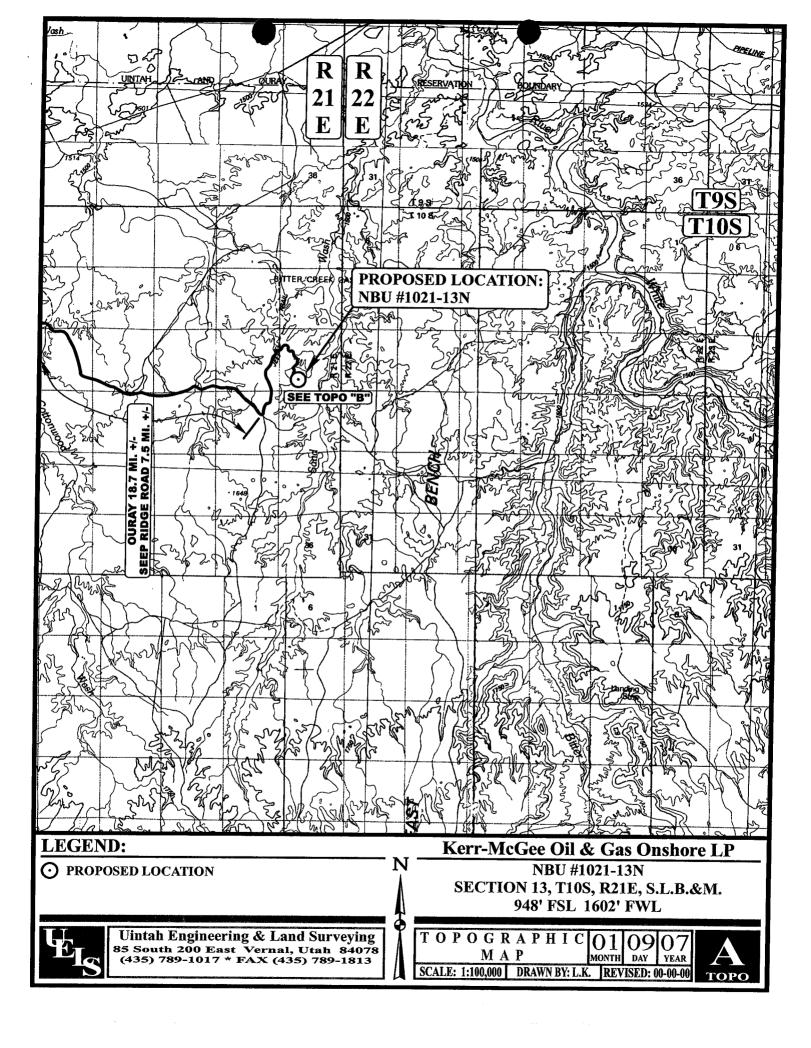
Uintah Engineering & Land Surveying S South 200 East Vernal, Utah 84078 435-789-1017 uels@uelsinc.com

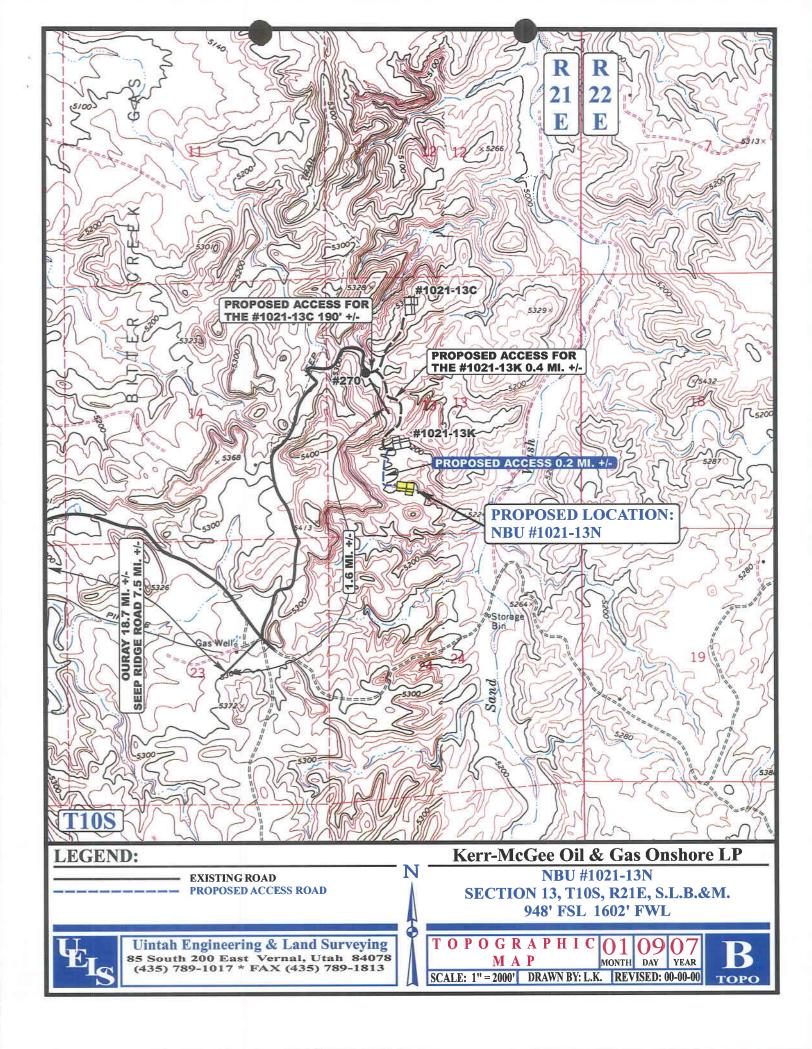
LOCATION PHOTOS

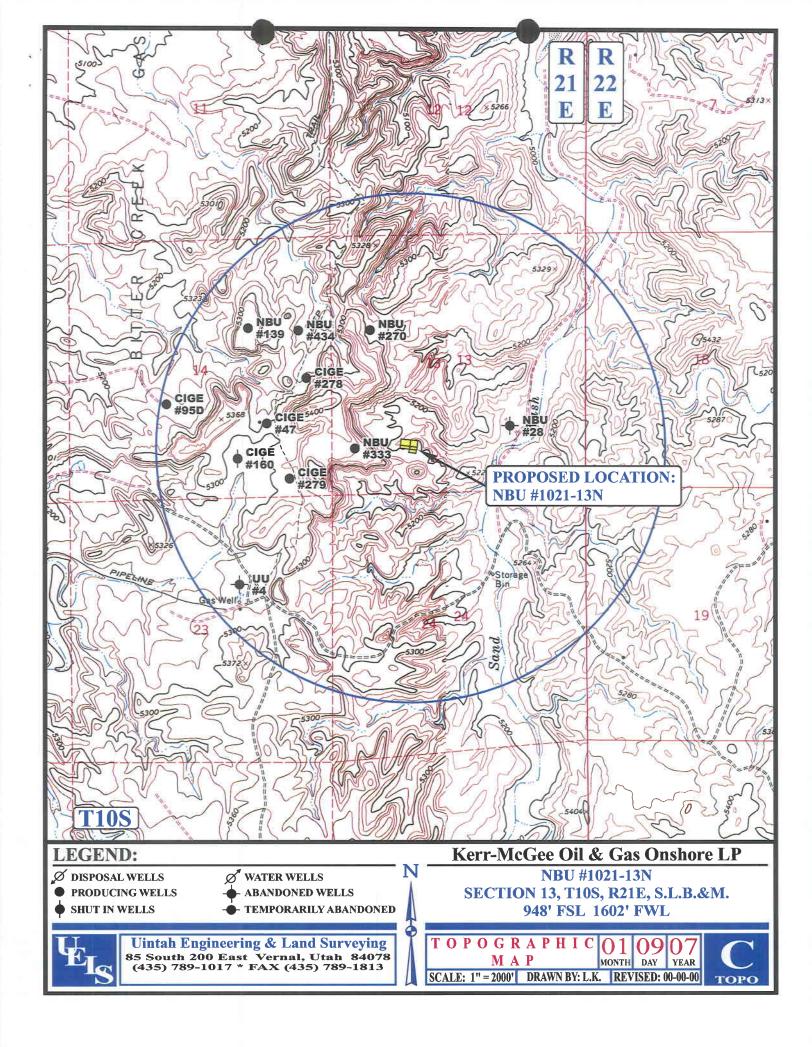
MONTH DAY YEAR

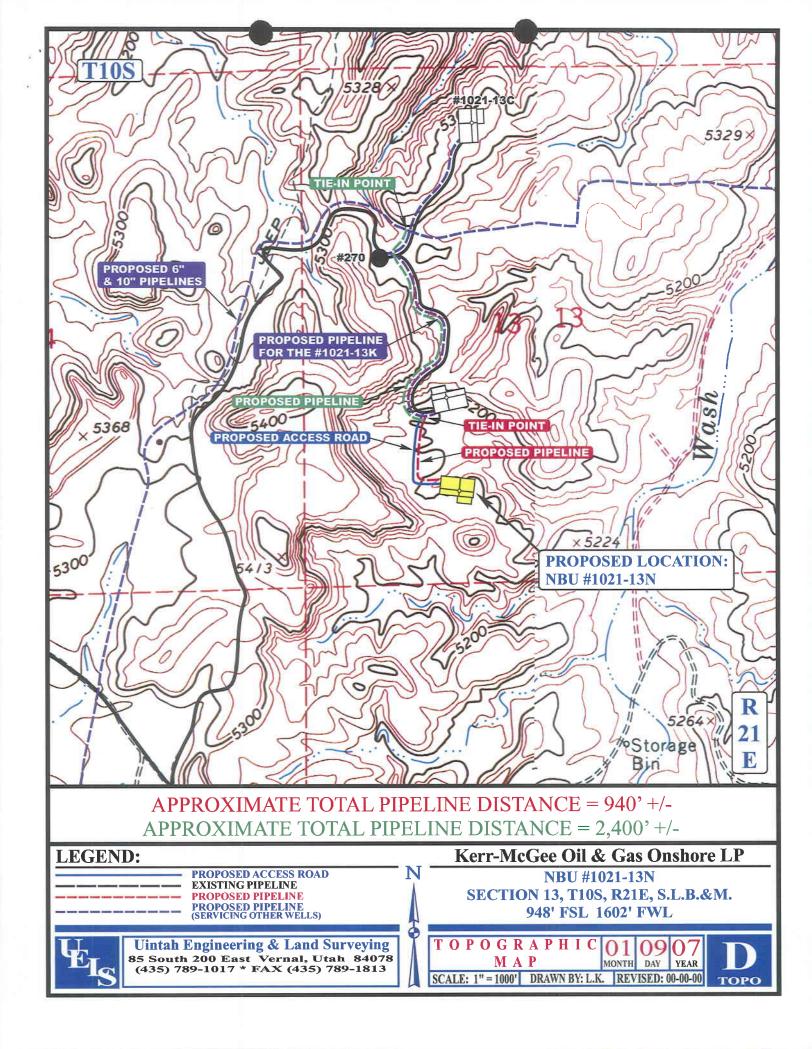
**РНОТО** 

TAKEN BY: D.K. | DRAWN BY: L.K. | REVISED: 00-00-00









# Kerr-McGee Oil & Gas Onshore LP

NBU #1021-13N PIPELINE ALIGNMENT

LOCATED IN UINTAH COUNTY, UTAH SECTION 13, T10S, R21E, S.L.B.&M.

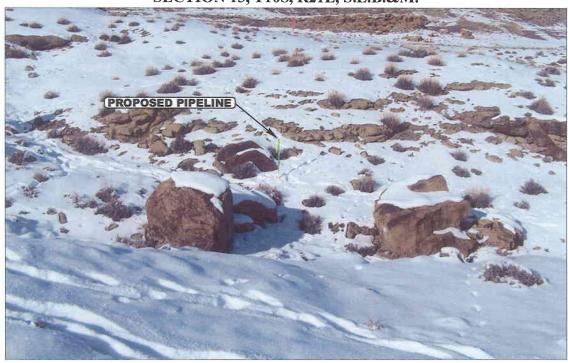


PHOTO: VIEW OF PIPELINE ALIGNMENT

**CAMERA ANGLE: NORTHERLY** 

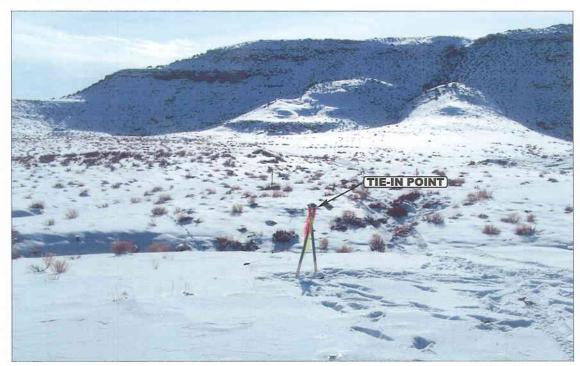


PHOTO: VIEW FROM TIE-IN POINT

**CAMERA ANGLE: SOUTHERLY** 



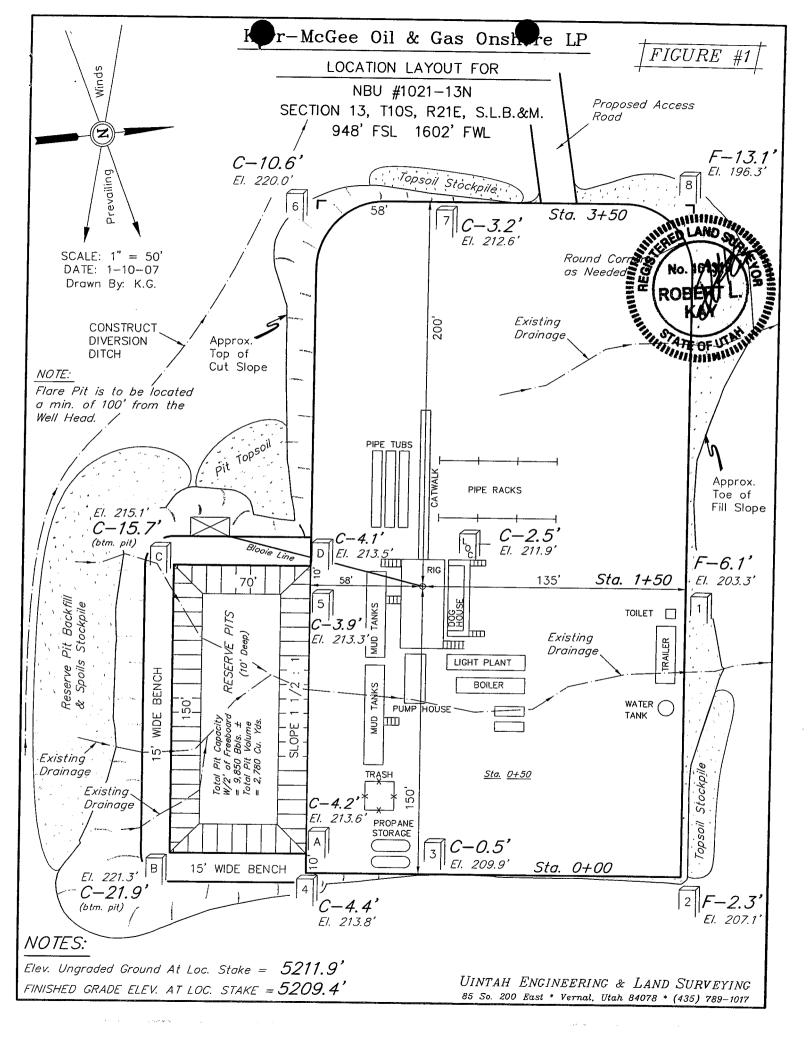
Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
435-789-1017 uels@uelsinc.com

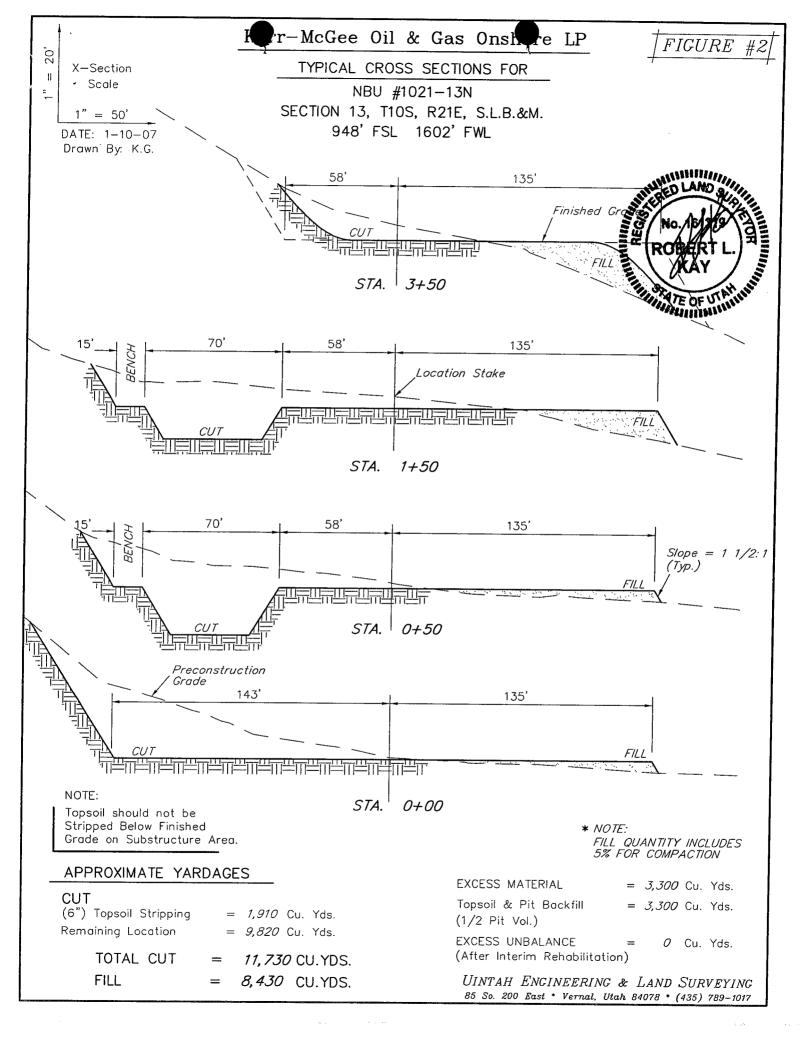
PIPELINE PHOTOS

01 09 07 MONTH DAY YEAR

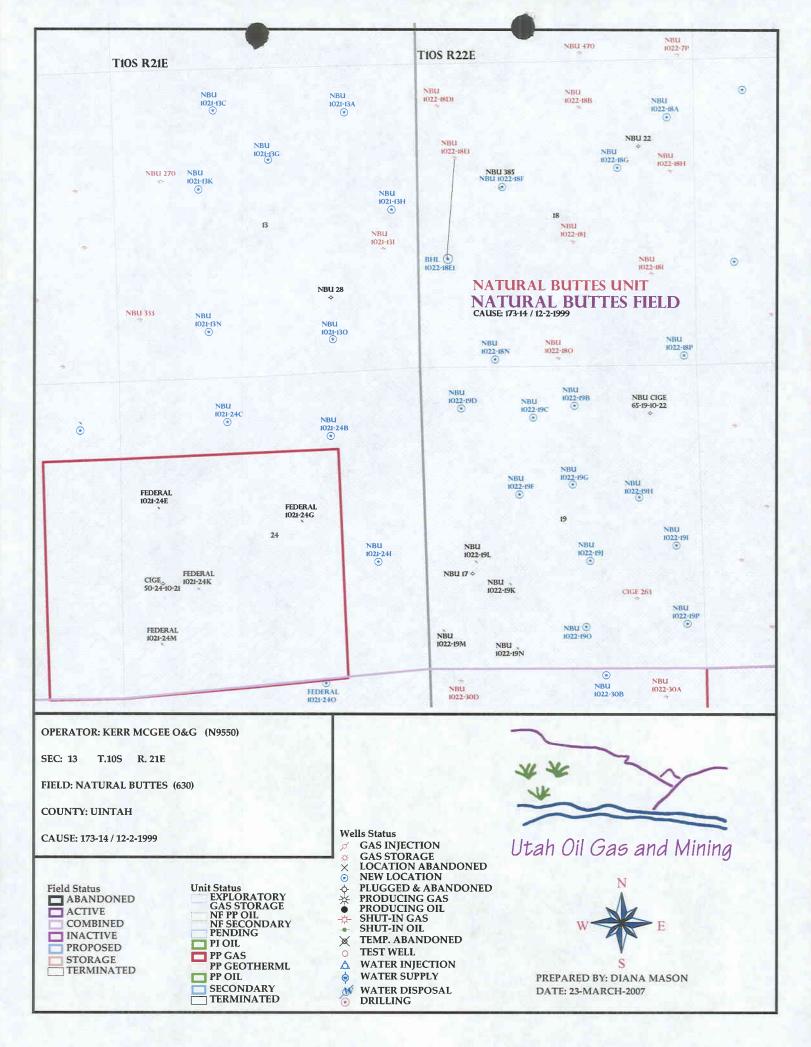
РНОТО

TAKEN BY: D.K. DRAWN BY: L.K. REVISED: 00-00-00





APD RECEIVED: 03/16/2007		API NO. ASSIGNED: 43-047-39107				
WELL NAME: NBU 1021-13N  OPERATOR: KERR-MCGEE OIL & GAS ( N2995 )  CONTACT: SHEILA UPCHEGO		PHONE NUMBER: 435-781-7024				
PROPOSED LOCATION:		INSPECT LOCATN	BY: /	/		
SESW 13 100S 210E SURFACE: 0948 FSL 1602 FWL		Tech Review	Initials	Date		
BOTTOM: 0948 FSL 1602 FWL		Engineering	DKD	4/23/07		
COUNTY: UINTAH		Geology				
LATITUDE: 39.94344 LONGITUDE: -109.5028  UTM SURF EASTINGS: 627911 NORTHINGS: 44223	343	Surface				
FIELD NAME: NATURAL BUTTES ( 630	)		<u> </u>			
LEASE TYPE: 3 - State  LEASE NUMBER: ML-23608  SURFACE OWNER: 3 - State		PROPOSED FORMAT		VD		
RECEIVED AND/OR REVIEWED:	LOCATI	ON AND SITING:				
Plat	R649-2-3.					
Bond: Fed[] Ind[] Sta[] Fee[] (No. 22013542 )	Unit: NATURAL BUTTES					
Potash (Y/N)	R649-3-2. General Siting: 460 From Qtr/Qtr & 920' Between Wells					
Oil Shale 190-5 (B) or 190-3 or 190-13  Water Permit	R649-3-3. Exception					
(No. 43-8496 )  RDCC Review (Y/N)	Drilling Unit					
(Date:)	I.	Board Cause No: Eff Date:	123-14	<del>/</del>		
Fee Surf Agreement (Y/N)		Siting: 460 fr ubdy Sullenm. Tra				
Intent to Commingle (Y/N)	R	649-3-11. Dire	ctional Dri	11		
COMMENTS: Needs Pres	1 (OU	(-06-07)				
STIPULATIONS: 1~ ST.	ATEMEN VIL SI	OF BO HALE 9 Cut Sto	<u>05(5</u>			
3-5-0	ruce (s	g Cont Sto	P			



### **Application for Permit to Drill** Statement of Basis

4/18/2007

### Utah Division of Oil, Gas and Mining

Page 1

APD No

Operator

API WellNo

Status

Well Type

**Surf Ownr** 

**CBM** 

307

Field

43-047-39107-00-00

**Surface Owner-APD** 

GW

S

No

KERR-MCGEE OIL & GAS ONSHORE, LP Well Name NBU 1021-13N

Unit

UNDESIGNATED

Type of Work

Location

SESW 13 10S 21E S

948 FSL 1602 FWL GPS Coord (UTM) 627911E 4422343N

### **Geologic Statement of Basis**

Kerr McGee proposes to set 2,000' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 5,200'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 13. The well is located .5 miles southwest of the proposed location. The well is owned by Target Trucking and is used for oil well drilling fluid. No depth is listed. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

**Brad Hill** 

**APD Evaluator** 

4/18/2007

Date / Time

### Surface Statement of Basis

The general area is the Natural Buttes Unit in the Sand Wash Drainage of Uintah, County. Sand Wash is approximately 36 air miles south of Vernal, Utah and approximately 18 miles southeast of Ouray, Utah. Access is by State of Utah Highways, Uintah County and existing or planned oilfield development roads to within 0.2 miles of the location. New construction will occur from this point.

Topography of the Sand Wash area is characterized by broad open flats dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in drainage. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. No springs exist in the area. An occasional constructed pond occurs furnishing water for antelope or livestock.

The NBU 1021-13N proposed gas well is located on the north slope of a main lateral ridge which is dissected by 3 swales which become deep as they continue north off the location. Small ridges between the 3 swales are flat-topped and will be used for the pad. A diversion is planned beginning above the reserve pit catching any runoff and diverting it west and north around the location. The White River is approximately 5 mile down drainage.

Both the surface and minerals are owned by SITLA. Jim Davis represented SITLA at the pre-site investigation. Mr. Davis had no concerns pertaining to this location. The selected location appears to be the best site for drilling and operating a well in the immediate area.

Floyd Bartlett

4/6/2007

**Onsite Evaluator** 

Date / Time

# **Application for Permit to Drill Statement of Basis**

4/18/2007

### Utah Division of Oil, Gas and Mining

Page 2

### Conditions of Approval / Application for Permit to Drill

Category

Condition

Pits

A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be

properly installed and maintained in the reserve pit.

Surface

Drainages adjacent to the proposed pad shall be diverted around the location.

### Utah Division of Oil, Gas and Mining

Operator

KERR-MCGEE OIL & GAS ONSHORE, LP

**Well Name** 

NBU 1021-13N

API Number

43-047-39107-0

**APD No** 307

Field/Unit UNDESIGNATED

Location: 1/4,1/4 SESW

**Sec** 13

**Tw** 10S

Rng 21E

948 FSL 1602 FWL

**GPS Coord (UTM)** 627904

4422348

Surface Owner

#### **Participants**

Floyd Bartlett (DOGM), Jim Davis (SITLA), Carroll Estes, Tony Kznick, (Kerr McGee), David Kay (Uintah Engineering and Land Surveying).

### Regional/Local Setting & Topography

The general area is the Natural Buttes Unit in the Sand Wash Drainage of Uintah, County. Sand Wash is approximately 36 air miles south of Vernal, Utah and approximately 18 miles southeast of Ouray, Utah. Access is by State of Utah Highways, Uintah County and existing or planned oilfield development roads to within 0.2 miles of the location. New construction will occur from this point.

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Both the surface and minerals are owned by SITLA.

### Surface Use Plan

**Current Surface Use** 

Grazing

Recreational

Wildlfe Habitat

New Road

Miles Well Pad

**Src Const Material** 

**Surface Formation** 

Width

Length

**Ancillary Facilities** 

### Waste Management Plan Adequate?

### **Environmental Parameters**

Affected Floodplains and/or Wetland N

#### Flora / Fauna

Vegetation is a desert shrub type. Shadscale, curly mesquite and spring annuals are present. Vegetation cover is sparse.

Antelope, sheep during the winter, rabbits, coyotes, and small mammals, birds and raptors.

Soil Type and Characteristics

Shallow gravely sandy loam.

**Erosion Issues** N

Sedimentation Issues N

Site Stability Issues N

**Drainage Diverson Required** Y

Berm Required? N

**Erosion Sedimentation Control Required?** N

Paleo Survey Run? N Paleo Potental Observed? Y Cultural Survey Run? Y Cultural Resources?

### Reserve Pit

	Site I	Ranking		
>200		0		
>1000		0		
>5280		0		
300 to 1320		10		
Mod permeability		10		
Fresh Water		5		
Normal Rock		0		
<10	•	0		
<10		0		
Not Present		0		
	Final Score	25	1	Sensitivity Level
	>1000 >5280 300 to 1320 Mod permeability Fresh Water Normal Rock <10 <10	>200 >1000 >5280 300 to 1320 Mod permeability Fresh Water Normal Rock <10 <10 Not Present	>1000 0 >5280 0 300 to 1320 10 Mod permeability 10 Fresh Water 5 Normal Rock 0 <10 0 <10 0 Not Present 0	>200 >1000 >1000  >5280  300 to 1320  Mod permeability  Fresh Water  Normal Rock  <10  <10  Not Present  0  0  0  0  0  0  0  0  0  0  0  0  0

### Characteristics / Requirements

The proposed reserve pit is 70' x 150' x 10' deep located in a cut on the southeast corner of the location. A 20 mil liner with a felt sub-liner is planned by Kerr McGee.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 16 Pit Underlayment Required? Y

### **Other Observations / Comments**

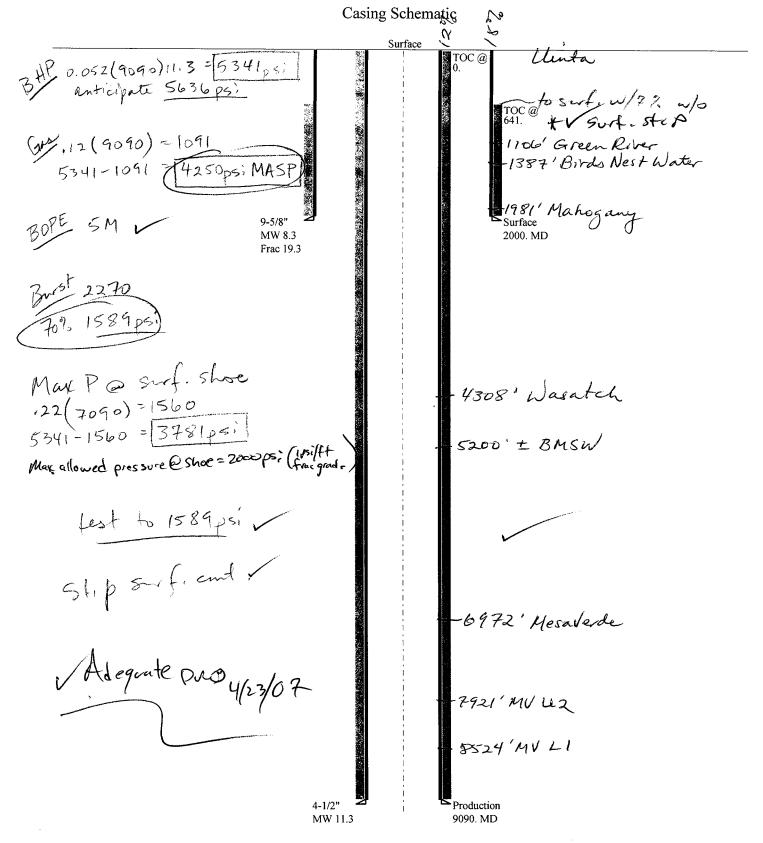
Ben Williams representing the UDWR was not at the pre-site but stated on a previous day that all the remaining locations in the area were classified as yearlong critical habitat for antelope. He stated that the lack of water not forage is the limiting factor affecting the herd in the area. He recommended no restrictions for antelope. No other wildlife is expected to be significantly affected. He gave Jim Davis of SITLA and Carroll Estes of Kerr McGee a copy of his wildlife evaluation and a UDWR recommended seed mix to be used when re-vegetating the locations.

Petrified turtle shells were located in a hillside above the proposed location.

ATVs were used to access the site.

Floyd Bartlett 4/6/2007 **Evaluator** Date / Time

# 2007-04 Kerr McGee NBU **2**1-13N



2007-04 Kerr McGee NBU 1021-13N Well name:

Kerr McGee Oil & Gas Onshore L.P. Operator:

Surface String type: Project ID:

43-047-39107

Uintah County, Utah Location:

**Design parameters:** 

Minimum design factors: Collapse:

**Environment:** 

Collapse

8.300 ppg Design factor H2S considered?

No 75 °F

Mud weight: Design is based on evacuated pipe. 1.125

1.00

1.80 (J)

1.80 (J)

Surface temperature: Bottom hole temperature: 103 °F

1.40 °F/100ft Temperature gradient: Minimum section length: 1,400 ft

Burst:

Design factor

Cement top:

641 ft

**Burst** 

Max anticipated surface

No backup mud specified.

pressure:

1.760 psi

Internal gradient: Calculated BHP

0.120 psi/ft 2,000 psi

**Tension:** 

8 Round STC:

8 Round LTC: **Buttress:** 

1.60 (J) 1.50 (J) Premium: 1.50 (B)

Body yield:

Non-directional string.

Tension is based on buoyed weight. Neutral point: 1,756 ft

Re subsequent strings:

Next setting depth: 9,090 ft

Next mud weight: 11.300 ppg Next setting BHP: 5,336 psi 19.250 ppg Fracture mud wt: Fracture depth: 2,000 ft Injection pressure: 2,000 psi

Segment Nominal End True Vert Run Measured Drift Internal Seq Length Size Weight Grade **Finish** Depth Depth Diameter Capacity (lbs/ft) (ft) (in) (ft³) (ft) (ft) (in) 2000 1 9.625 32.30 ST&C 2000 2000 883.8 H-40 8.876 Run Collapse Collapse Collapse **Burst Burst Burst Tension Tension Tension** Load Strength Design Load Strength Design Load Strength Design Seq (psi) (psi) (psi) **Factor** (psi) **Factor** (Kips) (Kips) Factor 862 1370 1.589 2000 2270 4.48 J 1 1.13 57 254

Prepared

Helen Sadik-Macdonald

Div of Oil, Gas & Minerals

Phone: (801) 538-5357 FAX: (801) 359-3940

Date: April 19,2007 Salt Lake City, Utah

Collapse is based on a vertical depth of 2000 ft, a mud weight of 8.3 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:

2007-04 Kerr McGee NBU 1021-13N

Operator:

Kerr McGee Oil & Gas Onshore L.P.

String type:

Production

Location:

Collapse

Uintah County, Utah

Project ID:

43-047-39107

Design is based on evacuated pipe.

Minimum design factors:

Collapse: Design factor

1.125

**Environment:** 

H2S considered? Surface temperature: No 75 °F

Bottom hole temperature: Temperature gradient:

Non-directional string.

202 °F 1.40 °F/100ft

Minimum section length: 1,500 ft

**Burst:** 

Design factor

1.00

Cement top:

Surface

**Burst** 

Max anticipated surface

pressure:

3,336 psi

11.300 ppg

Internal gradient: Calculated BHP

**Design parameters:** 

Mud weight:

0.220 psi/ft

5,336 psi

No backup mud specified.

8 Round LTC:

**Buttress:** 

Premium:

Body yield:

1.50 (J) 1.50 (B)

Tension is based on buoved weight. Neutral point: 7,555 ft

Tension:

8 Round STC: 1.80 (J) 1.80 (J) 1.60 (J)

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	9090	4.5	11.60	I-80	LT&C	9090	9090	3.875	793.3
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	5336	6360	1.192	5336	7780	1.46	88	212	2.42 J

Prepared

Helen Sadik-Macdonald

Div of Oil, Gas & Minerals

Phone: (801) 538-5357 FAX: (801) 359-3940

Date: April 19,2007 Salt Lake City, Utah

Collapse is based on a vertical depth of 9090 ft, a mud weight of 11.3 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

### **United States Department of the Interior**

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

March 27, 2007

#### Memorandum

To:

Assistant District Manager Minerals, Vernal District

From:

Michael Coulthard, Petroleum Engineer

Subject:

2007 Plan of Development Natural Buttes Unit Uintah

County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2007 within the Natural Buttes Unit, Uintah County, Utah.

API#

WELL NAME

LOCATION

(Proposed PZ Wasatch/MesaVerde)

43-047-39107 NBU 1021-13N Sec 13 T10S R21E 0948 FSL 1602 FWL 43-047-39108 NBU 1021-13H Sec 13 T10S R21E 2351 FNL 0515 FEL 43-047-39109 NBU 1021-16D Sec 16 T10S R21E 0666 FNL 0666 FWL 43-047-39106 NBU 1021-28I Sec 28 T10S R21E 2269 FSL 0930 FEL 43-047-39100 NBU 1021-28F Sec 28 T10S R21E 1767 FNL 2157 FWL 43-047-39101 NBU 1021-28E Sec 28 T10S R21E 2046 FNL 0856 FWL 43-047-39102 NBU 1021-28D Sec 28 T10S R21E 0604 FNL 0614 FWL 43-047-39103 NBU 1021-28C Sec 28 T10S R21E 0476 FNL 1997 FWL 43-047-39104 NBU 1021-28B Sec 28 T10S R21E 0767 FNL 1997 FEL 43-047-39110 NBU 1021-29P Sec 29 T10S R21E 0286 FSL 1236 FEL 43-047-39111 NBU 1021-31A Sec 31 T10S R21E 0744 FNL 0815 FEL 43-047-39116 NBU 1021-31B Sec 31 T10S R21E 0777 FNL 1911 FEL 43-047-39136 NBU 1021-32G Sec 32 T10S R21E 2038 FNL 2065 FEL 43-047-39137 NBU 1021-32D Sec 32 T10S R21E 0777 FNL 0355 FWL 43-047-39138 NBU 1021-32E Sec 32 T10S R21E 1858 FNL 0651 FWL 43-047-39139 NBU 1022-19P Sec 19 T10S R22E 0766 FSL 0298 FEL 43-047-39141 NBU 1022-24J Sec 24 T10S R22E 1928 FSL 1972 FEL 43-047-39140 NBU 1022-24P Sec 24 T10S R22E 1110 FSL 1054 FEL 43-047-39142 NBU 1022-25G Sec 25 T10S R22E 1761 FNL 1462 FEL 43-047-39033 NBU 1022-25H Sec 25 T10S R22E 2604 FNL 0825 FEL 43-047-39156 NBU 1022-24O Sec 24 T10S R22E 0645 FSL 2007 FEL 43-047-39157 NBU 1022-7I Sec 07 T10S R22E 2000 FSL 0948 FEL

Page 2

Our records indicate the NBU 1021-28I and the NBU 1022-25H are closer than 460 feet from the Natural Buttes Unit boundary (approximately 390 and 36 feet respectively).

We have no objections to permitting the wells so long as the unit operator receives an exception to the locating and siting requirements of the State of Utah (R649-3-2).

/s/ Michael L. Coulthard

bcc: File – Natural Buttes Unit Division of Oil Gas and Mining Central Files

Agr. Sec. Chron Fluid Chron

MCoulthard:mc:3-27-07

From:

Ed Bonner

To:

Mason, Diana

Date:

4/23/2007 3:38 PM

Subject:

Well Clearance

CC:

Davis, Jim; Garrison, LaVonne; Hill, Brad; Hunt, Gil

The following wells have been given cultural resources clearance by the Trust Lands Cultural Resources Group:

#### **Bill Barrett Corporation**

Peters Point State 8-2D-13-16 (API 43 007 31280)

### EnCana Oil & Gas (USA) Inc

Middle Mountain State 36-12-29-24 (API 43 037 31855)

#### EOG Resources, Inc

East Chapita 60-16 (API 43 047 39150)

East Chapita 57-16 (API 43 047 39151)

East Chapita 58-16 (API 43 047 39152)

### Kerr McGee Oil & Gas Onshore LP

NBU 1021-13N (API 43 047 39107)

NBU 1021-13H (API 43 047 39108)

NBU 1021-16D (API 43 047 39109)

NBU 1022-19P (API 43 047 39139)

If you have any questions regarding this matter please give me a call.



### State of Utah

# Department of Natural Resources

MICHAEL R. STYLER Executive Director

Division of Oil, Gas & Mining

JOHN R. BAZA Division Director JON M. HUNTSMAN, JR.

Governor

GARY R. HERBERT Lieutenant Governor

April 24, 2007

Kerr McGee Oil & Gas Onshore LP 1368 S 1200 E Vernal, UT 84078

Re: Natural Buttes Unit 1021-13N Well, 948' FSL, 1602' FWL, SE SW, Sec. 13, T. 10 South, R. 21 East, Uintah County, Utah

### Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann.§ 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-39107.

Sincerely,

Gil Hunt

**Associate Director** 

Stiezet

pab Enclosures

cc:

**Uintah County Assessor** 

**SITLA** 

Bureau of Land Management, Vernal Office

Operator:	Kerr McGee Oil & Gas Onshore LP	
Well Name & Number	Natural Buttes Unit 1021-13N	
API Number:	43-047-39107	
Lease:	ML-23608	

Location: SE SW

Sec. 13

**T.** 10 South

**R.** 21 East

### **Conditions of Approval**

### 1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

### 2. Notification Requirements

The operator is required to notify the Division of Oil, Gas and Mining of the following action during drilling of this well:

- 24 hours prior to cementing or testing casing contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment contact Dan Jarvis
- 24 hours prior to spudding the well contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program contact Dustin Doucet
- Prior to commencing operations to plug and abandon the well contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well contact Dustin Doucet
- Any changes to the approved drilling plan contact Dustin Doucet

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

Dan Jarvis at:

(801) 538-5338 office

(801) 942-0873 home

• Carol Daniels at:

(801) 538-5284 office

• Dustin Doucet at:

(801) 538-5281 office

(801) 733-0983 home

### 3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

Page 2 43-047-39107 April 24, 2007

- 4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.
- 5. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)
- 6. Surface casing shall be cemented to the surface.
- 7. In accordance with Order in Cause No. 190-5(b) dated October 28, 1982, the Operator shall comply with requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operator shall ensure that the surface and/or production casing is properly cemented over the entire oil shale interval as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the Division.

### STATE OF UTAH

	DEPARTMENT OF NATURAL RESOURDIVISION OF OIL, GAS AND MI		[	5. LEASE DESIGNATION AND SERIAL NUMBER: ML-23608
SUNDRY	Y NOTICES AND REPORTS	S ON WELLS	S	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill i	new wells, significantly deepen existing wells below cun aterals. Use APPLICATION FOR PERMIT TO DRILL fo	rent bottom-hole depth, n	eenter plugged wells, or to	7. UNIT or CA AGREEMENT NAME: UNIT #891008900A
TYPE OF WELL     OIL WELL				8. WELL NAME and NUMBER: NBU 1021-13N
2. NAME OF OPERATOR: KERR McGEE OIL & GAS	S ONSHORE LP			9. API NUMBER: 4304739107
3. ADDRESS OF OPERATOR: 1368 SOUTH 1200 EAST	Y VERNAL STATE UT ZIP		HONE NUMBER: 435) 781-7024	10. FIELD AND POOL, OR WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 948'F				COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHIP, RAN	NGE, MERIDIAN: SESW 13 10S 2	:1E		STATE: UTAH
11. CHECK APP	ROPRIATE BOXES TO INDICAT	E NATURE OF	NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPI	E OF ACTION	
✓ NOTICE OF INTENT	ACIDIZE	DEEPEN		REPERFORATE CURRENT FORMATION
(Submit in Duplicate)	ALTER CASING	FRACTURE TRE	EAT	SIDETRACK TO REPAIR WELL
Approximate date work will start:	CASING REPAIR	NEW CONSTRU	JCTION	TEMPORARILY ABANDON
	CHANGE TO PREVIOUS PLANS	OPERATOR CH	ANGE	TUBING REPAIR
	CHANGE TUBING	PLUG AND ABA	NDON	VENT OR FLARE
SUBSEQUENT REPORT (Submit Original Form Only)	CHANGE WELL NAME	PLUG BACK		WATER DISPOSAL
,	CHANGE WELL STATUS	PRODUCTION (	(START/RESUME)	WATER SHUT-OFF
Date of work completion:	COMMINGLE PRODUCING FORMATIONS	RECLAMATION	OF WELL SITE	OTHER: DOGM APD
	CONVERT WELL TYPE	RECOMPLETE -	- DIFFERENT FORMATION	EXTENSION
THE OPERATOR REQUISO THAT THE DRILLING	IG ON APRIL 24, 2007, AND ACC IL 24, 2007.	ONE YEAR EX	TENSION FOR TH	IE SUBJECT WELL LOCATION, AS APPROVED BY THE DIVISION
		ivision of		
	Oil, Gas a	and Mining		
COPY SENT TO OPERA		-00		RECEIVED
Date: 5-6-200	X	25-05		MAY 0 2 2008
Initials: KS	By:	The same		DIV. OF OIL, GAS & MINING
NAME (PLEASE PRINT) SHEILA U	JPCHEGO	TITLE	SENIOR LAND A	DMIN SPECIALIST
SIGNATURE MUST	MILLIA	DATE	4/22/2008	

(This space for State use only)



API:

4304739107

## Application for Permit to Drill Request for Permit Extension Validation

Validation
(this form should accompany the Sundry Notice requesting permit extension)

Well Name:	NBU 1021-13N			
Location:	<b>SE/SW SEC. 13, T10S, R21E</b>			
	mit Issued to: KERR M		S ONSHORE LP	
Date Original	Permit Issued: 4/24/2007	•		
above, hereby	ed as owner with legal rig verifies that the informati cation to drill, remains va	ion as submitte	ed in the previous	ly
Following is a verified.	checklist of some items re	elated to the a	oplication, which	should be
•	rivate land, has the owne en updated? Yes⊡No⊠	rship changed	, if so, has the su	rface
•	s been drilled in the vicini siting requirements for th	, ,		ould affect
	n any unit or other agreer peration of this proposed	•		ect the
	en any changes to the accould affect the proposed		•	or right-
Has the approv	ved source of water for di	rilling changed	? Yes□No☑	
	en any physical changes ire a change in plans fror es□No☑			
Is bonding still	in place, which covers th	is proposed w	ell? Yes☑No□	
Signature	Myduy	U	4/22/2008 Date	RECEIVED  MAY 0 2 2008
Title: SENOIR	LAND ADMIN SPECIALIST			MAY 0 2 2008
Representing:	KERR-McCEE OII. & CAS	ONSHORE I P		DIV. OF OIL, GAS & MINING

# DIVISION OF OIL, GAS AND MINING

## **SPUDDING INFORMATION**

Name of Company: Kerr-McGee Oil & Gas O	Onshore, LP	
Well Name: NBU 1021-13N		
API No: <b>43-047-39107</b> L	ease Type: State	
Section 13 Township 10S Range 21E	_County_ <u>Uintah</u>	
Drilling Contractor Pete Martin	Rig # _	Rathole
SPUDDED:		
Date <u>7-03-08</u>	_	
Time <b>09:00 AM</b>	_	
How_Dry_	_	
Drilling will Commence:		
Reported by Lew Weldon	· · · · · · · · · · · · · · · · · · ·	
Telephone #435-828-7035		
Date 7-07-08	Signed RM	

#### STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES

# DIVISION OF OIL, GAS AND MINING

**ENTITY ACTION FORM** 

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

1368 SOUTH 1200 EAST

city VERNAL

state UT

zip 84078

Phone Number: \_(435) 781-7024

Well 1

BU 921-8P					Rng County			
30 32 I-0P		SESE	8	98,	21E	UINTAH		
Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date				
99999	2900	6/30/2008			7/14/08			
_	Number	Number         Number           99999         2900	Number         Number           99999         3900         6	Number         Number           99999         3900         6/30/2000	Number         Number           99999         3900         6/30/2008	Number         Number         En           99999         3900         6/30/2008         7/		

SPUD WELL LOCATION ON 06/30/2008 AT 1200 HRS.

Well 2

API Number	Well	QQ	QQ Sec Tw		Rng	County		
4304737228	SOUTHMAN CANYON 923-31L NWS			31	31 98,		23E UINTAH	
Action Code	Current Entity Number	New Entity Number	s	Spud Date		Entity Assignn		
В	99999	16952	6	6/29/2008			114/08	
	J PETE MARTIN BUCK D WELL LOCATION O		. •			7	-	

API Number	Well i	QQ	Sec	Twp	Rng	County	
4304739107	NBU 1021-13N		SESW	13	108	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
В	99999	2900	7/3/2008		7/	14/08	
	J PETE MARTIN BUCK! D WELL LOCATION ON						

#### **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a new entity
- E Other (Explain in 'comments' section)

**RECEIVED** 

JUL 08 2008

SHEILA UPCHEGO

SENIOR LAND SPECIALIST

(5/2000)

#### STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES	5. LEASE DESIGNATION AND SERIAL NUMBER:
DIVISION OF OIL, GAS AND MINING	ML-23608
SUNDRY NOTICES AND REPORTS ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	7. UNIT OF CA AGREEMENT NAME: UNIT #891008900A
1. TYPE OF WELL OIL WELL GAS WELL OTHER	8. WELL NAME and NUMBER: NBU 1021-13N
2. NAME OF OPERATOR: KERR McGEE OIL & GAS ONSHORE LP	9. API NUMBER: 4304739107
3. ADDRESS OF OPERATOR: PHONE NUMBER:	10. FIELD AND POOL, OR WILDCAT:
1368 SOUTH 1200 EAST CITY VERNAL STATE UT ZIP 84078 (435) 781-7024	NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 948'FSL, 1602'FWL	COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESW 13 10S 21E	STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION TYPE OF ACTION	
NOTICE OF INTENT	REPERFORATE CURRENT FORMATION
(Submit in Duplicate) ALTER CASING FRACTURE TREAT	SIDETRACK TO REPAIR WELL
Approximate date work will start: CASING REPAIR NEW CONSTRUCTION	TEMPORARILY ABANDON
CHANGE TO PREVIOUS PLANS OPERATOR CHANGE	TUBING REPAIR
CHANGE TUBING UPLUG AND ABANDON  SUBSEQUENT REPORT CHANGE WELL NAME PLUG BACK	VENT OR FLARE WATER DISPOSAL
SUBSEQUENT REPORT (Submit Original Form Only)  CHANGE WELL NAME  PLUG BACK  PRODUCTION (START/RESUME)	WATER SHUT-OFF
Date of work completion:  COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE	OTHER: WELL SPUD
CONVERT WELL TYPE RECOMPLETE - DIFFERENT FORMATION	VILLE OF OB
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volume MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" W/28 SX READY MIX.  SPUD WELL LOCATION ON 07/03/2008 AT 0900 HRS.	
NAME (PLEASE PRINT) SHEILA UPCHEGO TITLE REGULATORY A	ANALYST
SIGNATURE MINIMUM DATE 7/8/2008	

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JUL 1 1 2008

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### STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING	5. LEASE DESIGNATION AND SERIAL NUMBER:
DIVISION OF OIL, GAS AND MINING	ML-23608
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2. NAME OF OPERATOR: KERR McGEE OIL & GAS ONSHORE LP	9. API NUMBER: 4304739107
3. ADDRESS OF OPERATOR: PHONE NUMBER:	10. FIELD AND POOL, OR WILDCAT:
1368 SOUTH 1200 EAST CITY VERNAL STATE UT 21P 84078 (435) 781-7024	NATURAL BUTTES
FOOTAGES AT SURFACE: 948'FSL, 1602'FWL	COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESW 13 10S 21E	STATE: UTAH
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION TYPE OF ACTION	
NOTICE OF INTENT	REPERFORATE CURRENT FORMATION
(Submit in Duplicate)	SIDETRACK TO REPAIR WELL
Approximate date work will start: CASING REPAIR NEW CONSTRUCTION	TEMPORARILY ABANDON
CHANGE TO PREVIOUS PLANS OPERATOR CHANGE	TUBING REPAIR
CHANGE TUBING PLUG AND ABANDON	VENT OR FLARE
SUBSEQUENT REPORT CHANGE WELL NAME PLUG BACK (Submit Original Form Only)	WATER DISPOSAL
Date of work completion:  CHANGE WELL STATUS  PRODUCTION (START/RESUME)	WATER SHUT-OFF
COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE	✓ OTHER: SET SURFACE CSG
CONVERT WELL TYPE RECOMPLETE - DIFFERENT FORMATION	
MIRU PROPETRO AIR RIG ON 07/09/2008. DRILLED 12 1/4" SURFACE HOLE TO 2160'. CSG. LEAD CMT W/300 SX PREM CLASS G @15.8 PPG 1.15 YIELD. TAILED CMT W/19 PPG 1.15 YIELD. NO RETURNS THROUGH OUT JON 230 PSI LIFT. TOP OUT W/150 SX 1.15 YIELD. DOWN BACKSIDE GOOD CMT TO SURFACE HOLE STAYED FULL. WORT.	RAN 9 5/8" 36# J-55 SURFACE 50 SX PREM CLASS G @15.8
NAME (PLEASE PRINT) SHEILA UPCHEGO	NALYST
SIGNATURE MULLIAN DATE 7/14/2008	

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JUL 17 2008

FORM 9

STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES	
DIVISION OF OIL, GAS AND MINING	5. LEASE DESIGNATION AND SERIAL NUMBER: ML-23608
SUNDRY NOTICES AND REPORTS ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reente drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	7. UNIT or CA AGREEMENT NAME: UNIT #891008900A
1. TYPE OF WELL OIL WELL GAS WELL OTHER	8. WELL NAME and NUMBER:  NBU 1021-13N
2. NAME OF OPERATOR: KERR McGEE OIL & GAS ONSHORE LP	9. API NUMBER: 4304739107
	NUMBER: 10. FIELD AND POOL, OR WILDCAT: 5) 781-7024 NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 948'FSL, 1602'FWL	COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESW 13 10S 21E	STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF N	OTICE, REPORT, OR OTHER DATA
TYPE OF SUBMISSION TYPE O	F ACTION
NOTICE OF INTENT	REPERFORATE CURRENT FORMATION
(Submit in Duplicate)  ALTER CASING  FRACTURE TREAT	SIDETRACK TO REPAIR WELL
Approximate date work will start: CASING REPAIR NEW CONSTRUCTION	DN TEMPORARILY ABANDON
CHANGE TO PREVIOUS PLANS OPERATOR CHANG	E TUBING REPAIR
CHANGE TUBING PLUG AND ABANDO	VENT OR FLARE
SUBSEQUENT REPORT CHANGE WELL NAME PLUG BACK (Submit Original Form Only)	WATER DISPOSAL
Date of work completion:  CHANGE WELL STATUS  PRODUCTION (STAI	RT/RESUME) WATER SHUT-OFF
COMMINGLE PRODUCING FORMATIONS RECLAMATION OF N	
CONVERT WELL TYPE RECOMPLETE - DIF	FERENT FORMATION OPERATIONS
FINISHED DRILLING FROM 2160' TO 9195' ON 08/20/2008. RAN 4 1/2" 11 SX PREM LITE II @11.5 PPG 2.82 YIELD. TAILED CMT W/1440 SX 50/50 BBLS BUMP PLUG FLOATS HELD. FINAL CIRC 2900 21 BBL CMT BACK SPITS.  RELEASED PIONEER RIG 38 ON 08/21/2008 AT 2200 HRS.	6.6# I-80 PRODUCTION CSG. LEAD CMT W/430 POZ @14.3 PPG 1.31 YIELD. DISPLACE W/142
NAME (PLEASE PRINT) SHELA UPCHEGO TITLE RI	EGULATORY ANALYST
NAME (PLEASE PRINT)	
SIGNATURE / / MAN DATE 8/	22/2008
This space for State use only)	

RECEIVED
AUG 2 5 2008

# STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL, GAS AND MINING	5. LEASE DESIGNATION AND SERIAL NUMBER: ML-23608
SUNDRY NOTICES AND REPORTS ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
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2. NAME OF OPERATOR: KERR McGEE OIL & GAS ONSHORE LP	9. API NUMBER: 4304739107
3. ADDRESS OF OPERATOR: 1368 SOUTH 1200 EAST CITY VERNAL STATE UT ZIP 84078 PHONE NUMBER: (435) 781-	
4. LOCATION OF WELL FOOTAGES AT SURFACE: 948'FSL, 1602'FWL	COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESW 13 10S 21E	STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE	, REPORT, OR OTHER DATA
TYPE OF SUBMISSION TYPE OF ACTION	N
NOTICE OF INTENT	REPERFORATE CURRENT FORMATION
(Submit in Duplicate)  ALTER CASING  FRACTURE TREAT	SIDETRACK TO REPAIR WELL
Approximate date work will start: CASING REPAIR NEW CONSTRUCTION	TEMPORARILY ABANDON
CHANGE TO PREVIOUS PLANS OPERATOR CHANGE	TUBING REPAIR
CHANGE TUBING PLUG AND ABANDON	VENT OR FLARE
SUBSEQUENT REPORT CHANGE WELL NAME PLUG BACK (Submit Original Form Only)	WATER DISPOSAL
Date of work completion:  CHANGE WELL STATUS  PRODUCTION (START/RESUM	ME) WATER SHUT-OFF
COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE	
CONVERT WELL TYPE RECOMPLETE - DIFFERENT F	ORMATION START-UP
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, department of the subject well location was placed on production on 09/18/20/9 PLEASE REFER TO THE ATTACHED CHRONOLOGICAL WELL HISTORY.	
NAME (PLEASE PRINT) SHEILA UPCHEGO TITLE REGULA	ATORY ANALYST
SIGNATURE MILL MANUELLA DATE 9/19/200	08

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Operator			FI	ELD NAME	<u> </u>	SPUD DA	TE	y Long	КВ	ROUTE	
•	E OIL & GAS	ONSHOR		IATURAL BUT	TES	07	/03/2008	5,209	5224		
API 400	)4739107		STATE	UTAI		C	OUNTY	UINTAH	DIV	/ision ROCK	1ES
Long/Lat.: 39.94345 / -109.50358			Q-Q/Sect/T		e: SESW/1	3 / 10S / 21E	OINTZ	Footages:	948.00' FSL 1,602.		
					We	llbore: NBU	1021-13N				
MTD			TVD				PBMD		1	PBTVD	
	9,195	EVENT	ACTIVITY: D		9,191	97/	ART DATE: 7	13/2008		AEE NO	D.: 2007741
EVENT INFORM			TIVE: DEVEL				DATE: 8/21			AFE NO	7 2007741
			TIVE 2: VERT					ARTED PROD	).:		
			N: DRILL PR			Eve	nt End Status	s: COMPLE	TE		
RIG OPERATION	IS:	Begi	n Mobilization	Rig On L	_ocation	Rig Charges	Rig Ope	eration Start	Finish Drilling	Rig Release	Rig Off Location
PIONEER 38 / 38	3	0	8/08/2008	08/09.	/2008	08/08/2008	08/1	10/2008	08/20/2008	08/21/2008	08/22/2008
Date	Time		Duration	Phase	Code	Subco P/U			Opera	tion	
7/3/2008	Start-E SUPERVIS	<u> </u>	(hr)   .EW WELDO1	<u>_</u>		de			<u> </u>		<u>MD:</u> 56
13/2000	9:00 -		8.00	DRLCON	02	Р				PUD WELL @ 0900	HR
										JLE 10 PIPE DRILI NOTFIED OF SPU	
							HOLES F	-OK KIG 30 B	FINI WIND STATE!	NO THIED OF SPU	
//9/2008	SUPERVIS	SOR: L	EW WELDO	٧	<u>, , , , , , , , , , , , , , , , , , , </u>			****			MD: 210
	22:30 -		1,50	DRLSUR	02	Р	MOVE IN	NAND RIG UP	AIR RIG SPUD V	WELL @ 2230 HR	7/9/08 DA
							AT REPO	ORT TIME 210	ı.		
	0.1050.44	200 .									MD: 1,530
7/10/2008	SUPERVIS 0:00 -		.EW WELDOI		02	Р	פוכ חפוו	LLING AHEAD	NO WATER 990	y.	<u>IVID.</u> 1,300
	0.00 -	12:00	12.00	DRLSUR	02	Г	KIG DKII	LLING ALICAD	NO WATER 330	,	
	12:00 -	0:00	12.00	DRLSUR	02	Р	RIG DRII	LLING AHEAD	HIT TRONA WA	TER @ 1320' DA	AT
							REPORT	T TIME			
714 4 10000	CLIDED\#	60B; ;	EMANATI DO				* *********	· · · · · · · · · · · · · · · · · · ·	THE COLUMN TO SERVICE OF THE SERVICE OF T	'AMCYCL'	MD: 2,160
7/11/2008	0:00 -		EW WELDOI		02	Р	BIG T/D	ത 2160' CON	DITION HOLE 1	HR WELL NOT	<u></u> 2,100
	0.00	13.00	13.00	DRLSUR	UZ	r	CIRCUL		STRUCT HOLL I	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
									_		
	13:00 -	15:00	2.00	DRLSUR	05	Р	TRIP DP	OUT OF HOL	-E		
	15:00 -	18·00	3.00	DRLSUR	11	Р	RUN 207	73' OF 9 5/8 C	SG AND RIG DO	WN AIR RIG	
	10.50	10.00	5.00	DIVEGOIX	,,	•					
	18:00 -	19:00	1.00	DRLSUR	15	Р				TAIL @ 15.8# 1.15	5.0 GAL
							SK NO F	RETURNS TH	RUOUT JOB 230	PSI LIFT	
	19:00 -	19:30	0.50	DRLSUR	15	Р	1ST TOP	P JOB 150 SK	S DOWN BS WO	С	
	•		2.25		- <del>-</del>	•					
·	19:30 -	21:30	2.00	DRLSUR	15	Р				OD CMT TO SURI	FACE AND
								AT SURFAC			

-

Wins Ņo.:	95164				NBL	J 1021	-13N API No.: 4304739107
	19:30 - 21:30	2.00	DRLSUR	15		Р	2ND TOP JOB 150 SKS DOWN BS GOOD CMT TO SURFACE AND STAYED AT SURFACE
	21:30 - 21:30	0.00	DRLSUR				NO VISIBLE LEAKS PIT 1/4 FULL WORT
8/7/2008	SUPERVISOR:	RPAD PEDE	DSEN			·······································	<u>MD:</u> 2,160
3/1/2003	16:00 - 0:00	8.00	RDMO	01	E	Р	RDRT,PREPARE RIG F/ MOVE TO NBU 1021-13N
8/8/2008	SUPERVISOR:	BRAD PEDE	RSEN		Cit mayors,		<u>MD:</u> 2,160
	0:00 - 0:00	24.00	MIRU	01	В	Р	RDRT,MOVE RIG TO NBU 1021-13N,7 BED TRUCKS,4 HAUL TRUCKS,2 FORKLIFTS ON LOCATION @06:30 RELEASED @ 15:30,RURT 70% RIGGED UP
8/9/2008	SUPERVISOR:	BRAD PEDE	RSEN				MD: 2,160
<i>a, a, 2,</i> 2000	0:00 - 9:00	9.00	MIRU	01	В	Р	RURT
	9:00 - 11:00	2.00	DRLPRO	13	Α	Р	NIPPLE UP BOP
	11:00 - 16:00	5.00	DRLPRO	13	С	Р	SAFETY MEETING W/ B&C QUICKTEST, TEST BOP TO 5000 PSI,ANNULAR TO 2500 PSI,CASING TO 1500
	16:00 - 16:30	0.50	DRLPRO	17		Р	PRESPUD INSPECTION W/ DRILLER, PUSHER, COMAN
	16:30 - 17:00	0.50	DRLPRO	13	В	Р	INSTALL WEAR RING
t.	17:00 - 17:30	0.50	DRLPRO	06	Α	Р	RIG SERVICE
	17:30 - 21:30	4.00	DRLPRO	05	Α	Р	SAFETY MEETING W/ TESCO R/U & P/U DRILLSTRING,R/D TESCO
	21:30 - 0:00	2.50	DRLPRO	02	F	Р	DRILL CMT & F.E
8/10/2008	SUPERVISOR:	BRAD PEDE	RSFN			- <u>-</u>	<u>MD:</u> 3,592
	0:00 - 1:00	1.00	DRLPRO	02	F	Р	DRLG CMT & F.E
	1:00 - 1:30	0.50	DRLPRO	02	В	Р	DRLG F/ 2160' TO 2198' ( 38' 76' HR ) WATER,SPUD @ 01:00 8/10/2008
	1:30 - 2:00	0.50	DRLPRO	09	Α	Р	SURVEY @ 2198' 1 DEG.
	2:00 - 8:30	6.50	DRLPRO	02	В	P	DRLG F/ 2198' TO 2673' ( 475' 73' HR ) WATER
	8:30 - 9:00	0.50	DRLPRO	09	Α	Р	SURVEY @ 2603' 1.5 DEG.

Wins No.:	95164				NBL	J 1021	13N API No.	43	0473910
	8:30 - 9:00	0.50 D	RLPRO	09	Α	P	SURVEY @ 2603' 1.5 DEG.		
	9:00 - 13:00	4.00 D	RLPRO	02	В	Ρ	DRLG F/ 2673' TO 2927' ( 254' 63.5' HR ) WATER		
	13:00 - 13:30	0.50 D	RLPRO	06	Α	Р	RIG SERVICE		
					• • •	•			
	13:30 - 17:00	3.50 D	RLPRO	02	В	Р	DRLG F/ 2927' TO 3180' ( 253' 72.2' HR ) WATER		
	17:00 - 17:30	0.50 D	RLPRO	09	Α	Р	SURVEY @ 3110 1 DEG.		
	17:20	0.50 D	DI DD 0		_	_			
	17:30 - 0:00	6.50 D	RLPRO	02	В	Р	DRLG F/ 3180' TO 3592' ( 412' 63.3' HR ) WT 9/36		
/11/2008	SUPERVISOR: B	BRAD PEDERSE	N					MD:	5,111
	0:00 - 0:30		RLPRO	02	В	Ρ	DRLG F/ 3592' TO 3623' (31' 62' HR ) WT 9/38		
	0:30 - 1:00	0.50	DI DDO			_	CUDVEY O ASSOLO DE O		
	0.30 - 1:00	0.50 D	RLPRO	09	Α	Р	SURVEY @ 3553' 2 DEG.		
	1:00 - 9:00	8.00 D	RLPRO	02	В	Р	DRLG F/ 3623' TO 4128' ( 505' 63.1' HR ) WT 9/38		
	9:00 - 9:30	0.50 D	RLPRO	09	Α	Р	SURVEY @ 4058' 2 DEG.		
	0.00 - <del>9</del> ,50	0.50	KLFKO	UÐ	^	r	30KVE1 @ 4035 2 DEG.		
	9:30 - 16:30	7.00 D	RLPRO	02	В	Р	DRLG F/ 4128' TO 4632' ( 504' 72' HR )WT 9.2/40		
	16:30 - 17:00	0.50 D	RLPRO	06	Α	Р	RIG SERVICE		
	17:00 - 17:30	0.50 D	RLPRO	09	Α	Р	SURVEY @ 4560' 2 DEG.		
	17:30 - 0:00	6.50 D	RLPRO	02	В	Р	DRLG F/ 4632' TO 5111' ( 479' 73.6' HR ) WT 9.5/46		
							WAARSON		
/12/2008	SUPERVISOR: K					_		<u>MD:</u>	5,960
	0:00 - 0:30	0.50 D	RLPRO	09	Α	Р	SURVEY @ 5041 2 DEG.		
	•								
	0;30 - 16:00	15.50 D	RLPRO	02	В	Р	DRLG F/ 5111' TO 5778,AVG 43 WT 9.8/42		
	16:00 - 16:30	0.50 D	RLPRO	06	Α	₽	RIG SERVICE		
	10.00 - (0.00	0.50	NLF NO	00	^	F	NO OFINIOF		
	16:30 - 0:00	7.50 D	RLPRO	02	В	Р	DRILL F/5778 TO 5960,AVG 24 WT 9.9/42		
								•	
14010055	CUDEDA COD.	ZENINZ MODELO						MD	6,525
/13/2008	<u>SUPERVISOR:</u> K 0:00 - 15:30		RLPRO	02	В	Р	DRILL F 5960 TO 6350,AVG 26,WT 10.1/43	IVID:	0,525
	10.50	,5,50	ALI-NO	UL	ט		5111001 0000 10 0000 AVO 20,441 10,1740		

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Vins No.:	95164				NBL	J 1021	-13N	API No.:	43	04739107
	0:00 - 15:30	15.50	DRLPRO	02	В	Р	DRILL F 5960 TO 6350,AVG 26,WT 10.1/43			
	15:30 - 16:00	0.50	DRLPRO	06	Α	Р	RIG SERVICE			
	16:00 - 0:00	8.00	DRLPRO	02	В	Р	DRILL F/6350 TO 6525,AVG 23 WT 10.1 /42			
14/2008		KENNY MOR	RIS				Open more of the second		MD:	6,780
	0:00 - 12:00	12.00	DRLPRO	02	В	Р	DRILL F/6525 TO 6730,AVG17 WT 10.4/45			
	12:00 - 16:30	4.50	DRLPRO	05	Α	Р	DROP SURVEY,PUMP PILL ,POOH			
	16:30 - 21:00	4.50	DRLPRO	05	Α	Р	CHANGE BIT & MUD MTR,TIH			
	21:00 - 21:30	0.50	DRLPRO	06	Α	Р	RIG SERVICE			
	21:30 - 0:00	2.50	DRLPRO	02	В	Р	DRILL F/6730 TO 6780,,AVG 20 WT 10.4/44			
15/2008	SUPERVISOR:	KENNY MOR	RIS			•	1 (Marie Marie Mar		MD:	7,250
	0:00 - 16:00	16.00	DRLPRO	02	В	Р	DRILL F/6780 TO 7108,AVG 21 WT 10.7/45			
	16:00 - 16:30	0.50	DRLPRO	06	Α	Ρ	RIG SERVICE			
	16:30 - 0:00	7.50	DRLPRO	02	В	Р	DRILL F/7108 TO 7250,AVG 19 WT 10.7/46			
16/2008	SUPERVISOR:	KENNY MOR	RIS				-		MD:	7,743
10,200	0:00 - 16:30	16.50	DRLPRO	02	В	Р	DRILL F/7250 TO 7586,AVG 20 wt 10.8/46			
	16:30 - 17:00	0.50	DRLPRO	06	Α	Р	RIG SERVICE			
	17:00 - 0:00	7.00	DRLPRO	02	В	Р	DRILL F/7586 TO 7743,AVG 22,WT11.0/47			
17/2008	SUPERVISOR:	KENNY MOR	RIS	<u>*</u>					MD:	8,245
	0:00 - 17:00	17.00	DRLPRO	02	В	Р	DRILL F/7743 TO 8124,AVG 22,WT 11.2/46			
	17:00 - 17:30	0.50	DRLPRO	06	Α	Р	RIG SERVICE			
	17:30 - 0:00	6.50	DRLPRO	02	В	Р	DRILL F/8124 TO 8245,AVG 18 WT 11.3/47			
18/2008	SUPERVISOR:	KENNY MOR	RIS		-		•	······································	MD:	8,625
10/2000										

Wins Ņo.:	95164			en de este de la compansión de la compan	NBL	J 1021	-13N API No.: 4304739107
	16:30 - 17:00	0.50	DRLPRO	06	Α	Р	RIG SERVICE
	17:00 - 0:00	7.00	DRLPRO	02	В	Р	DRILL F/8503 TO 8625,AVG 18 WT 11.9/48
8/19/2008	SUPERVISOR:	KENNY MOE	PRIS		.,	120 march and a	MD: 9,040
6/10/2000	0:00 - 16:00		DRLPRO	02	В	Р	DRILL F/8625 TO 8885,AVG 16 WT 12/46
	16:00 - 16:30	0.50	DRLPRO	06	Α	Р	RIG SERVICE
	16:30 - 0:00	7.50	DRLPRO	02	В	Ρ	DRILL F/8885 TO 9040,AVG18 WT 12/46
8/20/2008	SUPERVISOR:	KENNY MOF	RRIS	Cina na pina dipandipi di ida na	-	and seems time ( ) - Animonic colors	MD: 9,195
	0:00 - 8:30		DRLPRO	02	В	Р	DRILL F/9040 TO 9195',AVG 18 WT 12/48
	8:30 - 9:30	1.00	DRLPRO	04	Α	Р	CIRC F/SHORTTRIP
	9:30 - 10:30	1.00	DRLPRO	05	E	Р	SHORTTRIP TO 8500,NO PROBLEMS
	10:30 - 13:00	2.50	DRLPRO	04	С	Р	CIRC TO LDDP
	13:00 - 22:00	9.00	DRLPRO	05	В	Р	LDDP &BHA,PULL WEARRING,NO TIGHT HOLE
	22:00 - 0:00	2.00	DRLPRO	10	С	Р	R/U HALLIBURTON RUN TRIPLE COMBO TO (LOGGERS DEPTH 9208 )
0/04/0000	CUDEDVICOR.	VENIN MOE	- Inic		<u> </u>		MD: 0.105
8/21/2008	<u>SUPERVISOR:</u> 0:00 - 4:00		EVALPR	10	С	Р	MD: 9,195 TRIPLE COMBO LOGS (LOGGERS DEPTH 9208
	4:00 - 11:30	7.50	CSG	11	В	Р	SM,R/U TESCO RUN 9186' 4.5 CSG,218 JTS
	11:30 - 13:30	2.00	CSG	04	E	P	CIRC & COND F/CEMENT
	13:30 - 17:00	3.50	CSG	15	Α	Р	PUMP 430SX LEAD,1440SX TAIL,DISPLACE 142 BBLS,BUMPPLUG FLOATS HELD,FINAL CIRC PSI 2900,21 BBL CEMENT BACK
	17:00 - 19:00	2.00	CSG	13	Α	Р	SETSLIPS,NDBOP,CUT OFF CSG
	19:00 - 22:00	3.00	RDMO	13	A.	Р	CLEAN PITS,RELEASE RIG@22:00 8/21/08
	22:00 - 0:00	2.00	RDMO	01	E	P	RDRT
		2.00	1,514,0	<u> </u>			119011

Wins No.: 95164					NBU	J 1021	-13N API No.: 4304739107
22:00	- 0:00	2.00	RDMO	01	E	Р	RDRT

9/18/2008

9:04:53AM

Wins No.: 95164 **NBU 1021-13N** API No.: 4304739107 EVENT ACTIVITY: COMPLETION START DATE: 9/11/2008 **EVENT INFORMATION:** AFE NO.: 2007741 OBJECTIVE: DEVELOPMENT END DATE: **OBJECTIVE 2: ORIGINAL** DATE WELL STARTED PROD.: 7/3/2008 REASON: MV Event End Status: Begin Mobilization Rig On Location RIG OPERATIONS: Rig Operation Start Finish Drilling Rig Release Rig Charges Rig Off Location MILES-GRAY 1 / 1 Date Time Duration Phase Code Subco Operation Start-End de (hr) 9/11/2008 SUPERVISOR: JD FOREMAN MD: 7:00 - 7:30 Р 0.50 COMP 48 SAFETY MEETING 7:30 - 17:00 Р RIG UP RIG NIPPLE DOWN TREE NIPPLE UP BOP TALLY & PICK 9.50 COMP 31 UP 2.3/8 TBG RIH TAG @ 9056' PICK UP SWIVEL DRILL OUT CMT F/9056' TO 9127' CIRC CLEAN POOH NIPPLE DOWN BOP NIPPLE UP FRAC VALVES SDFN MD: SUPERVISOR: 9/12/2008 JD FOREMAN 7:00 - 7:30 COMP Р SEAFETY MEETING 0.50 48 RIG UP QUICK TEST TEST CSG & FRAC VALVES TO 7500# 7:30 - 15:00 7.50 COMP 37 Р GOOD TEST RIG UP CUTTERS RIH W/ 2,3/8 GUNS 23 GM .36 HOLES PERF @8957'-60' 4 SPF 9100'04' 4 SPF 9110'-14' 4 SPF NO **BOLW SWISDFWE** 1.00 MD: 9/15/2008 SUPERVISOR: JD FOREMAN 7:00 - 7:30 0.50 COMP 48 P SAFETY MEETING 7:30 - 18:00 10.50 COMP 36 Ρ MIRU WEATHERFORD & CUTTERS FRAC STAGE #1 BRK PERF @ 3883# INJ RT 50.2 BPM INJ PSI 4900# ISIP 3034# FG .77 FRAC W/ 92638# 30/50 + 5000# 20/40 RESIN COATED SAND + 2673 BBL SLICKWATER MP 5668# MR 50.4 BPM AP 4731# AR 50.2 BPM ISIP 3064# FG .78 NPI 30# PUMPED 125 BBL SWEEP @ END OF 1.5 STAGE #2 RIH SET 8K CBP @8808' PERF @ 8609'-12' 3 SPF 8681'-87' 3 SPF 8773'-78' 3 SPF BRK PERF @ 3740# INJ RT 50.4 BPM INJ PSI 5374# ISIP 3141# FG .80 FRAC W/115290# 30/50 SAND + 5000# 20/40 RESIN COATED SAND + 3120 BBL SLICKWATER MP 5525# MR 53.3 BPM AP 4759# AR 50.4 BPM ISIP 3057# FG .79 NPI -84 PUMPED 125BBL SWEEP AT END OF 1.5# RAMP STAGE #3 RIH SET 8K CBP @ 8490' PERF @ 8360'-64' 3 SPF 8401'-04' 3 SPF 8453'-60' 3 SPF BRK PERF @ 2804# INJ RT 50.6 BPM INJ PSI 4596# ISIP 2321# FG .71 FRAC W/ 130544# 30/50 SAND + 5000# 20/40 RESIN COATED SAND + 3703 BBL SLICKWATER MP 5503# MR 52 BPM AP 4594# AR 50.7 BPM ISIP 2668# FG .74 NPI 347# PUMOED 125 BBL SWEEP AT END OF 1# RAMP PUMP 250 BBL SWEEP AT END OF 1.5# RAMP STAGE #4 RIH SET 8K CBP @ 7832' PERF @ 7678'-81' 3 SPF 7738'-42' 3 SPF 7795'-02' 3 SPF BRK PERF @ 2710# INJ RT 50.6 BPM INJ PSI 4286# ISIP 1973# FG .70 FRAC W/ 129505# 30/50 SAND + 5000# RESIN COATED SAND + 3735 BBL SLICKWATER MP 4399# MR 50.7 BPM AP 4025# AR 50.3 BPM ISIP 2643# FG .78 NPI 670# RIH SET 8K CBP @7628' RIG DOWN WEATHERFORD & **CUTTERS SWISDEN** MD: 9/16/2008 SUPERVISOR: JD FOREMAN SAFETY MEETING 7:00 - 7:30 COMP 48 Р 0.50 ND FRAC VALVE'S, NU BOP. TEST BOP TO 3000#, GOOD TEST. 7:30 - 17:00 9.50 COMP 31 RIH W/ POBS -BIT TAG @ 7628'. RIG UP DRILG EQUIP. DRILL CBP @ 7628', 700# KICK. RIH TAG @ 7800', 30' SAND ON CBP, DRILL OUT SAND & TOP OFF OF CBP, 400# KICK. BIT STOP DRILL COULD NOT DRILL UP CBP. HIGH TORQUE PULL & LAY DOWN 24 JTS. RUN 12 STD IN HOLE OUT OF DERRICK TAG EVERY 30' GOING IN HOLE MAYBE CSG DAMAGE ??? PUT WELL ON FLOWBACK SDFN MD: 9/17/2008 SUPERVISOR: JD FOREMAN 7:00 - 7:30 SAFETY MEETING 0.50 COMP 48 Р

Wins No.:	95164				NBU 1021-	-13N API No.: 4304739107
	7:30 - 15:	7.50	COMP	31	Р	1200# FLOWING TBG PRESS ORDER TO LAND TBG WELL TO HOT TO WORK LAND ON WELL HEAD W/243 JTS 2,3/8 J-55 TBG EOT 7651.10' NIPPLE DOWN BOP NIPPLE UP TREE DID NOT PUMP OFF BIT MIRU CUTTERS RIH W/ 1,11/16 GUNS 3.2 GM .50 HOLES PERF # 7643'-49' 24 HOLES POOH RIG DOWN CUTTERS TRUN WELL TO FLOWBACK CREW NOTE DIDNOT PUMP OFF BIT POSSIBLE CSG DAMAGE TBG DETAIL
						KB 15.00
						HANGER .83 243 JTS 2,3/8 J-55 TBG 7631.23
ļ						POBS 4.04
						EOT 7651.10 60 JTS ON TRAILER ON LOC
9/18/2008	SUPERVISOR	R: JD FOREMAN			·	<u>MD:</u>
	7:00 -			33	Α	7 AM FLBK REPORT: CP 2000#, TP 1300#, 20/64" CK, 45 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 1870 BBLS LEFT TO RECOVER: 11362

				RTMEN	TATE ( TOFNA FOIL,	TURA	L RESC					(hi	ghlight	REPOR		FORM	
			ادامار	ONO	r OIL,	GAS	ANDI	VIIINIIN	G			1	ML-23		AND SE	NAL NOMBER.	
WEL	L COM	PLET	ION	OR I	RECC	MPL	ETIC	N RI	EPOR	T ANI	DLOG	6. 11	F INDIAN,	ALLOTTEE	OR TRIE	3E NAME	
1a. TYPE OF WELL	:	OI Wi	ELL [		GAS WELL		DRY		ОТН	≣R				AGREEME #89100			
b. TYPE OF WORI NEW WELL	K: HORIZ. LATS.	DE	EP-	j	RE- ENTRY		DIFF. RESVR.		OTHE	ER				ME and NUM 1021-13			
2. NAME OF OPER KERR Mc		. & GA	S ON	SHOF	RE LP	·							РІ NUMB 43047	ER: '39107			
3. ADDRESS OF OR 1368 S 120		ÇI	ITY VE	ŔŊĄĹ	<u></u>	STATE	UT	ZIP 840	 078		NUMBER: 35) 781-7024			POOL, OR			<del></del>
4. LOCATION OF W AT SURFACE:			'FWL		· · · · · · · · · · · · · · · · · · ·				·	•	· · · · · · · · · · · · · · · · · · ·		QTR/QTR MERIDIAI		TOWNS	SHIP, RANGE,	
AT TOP PRODU	CING INTERV	AL REPOR	RTED BÉ	LOW:													
AT TOTAL DEPT	ΓH:												COUNTY JINTA		1;	3. STATE UT	ΉA
14. DATE SPUDDER 7/3/2008		5. DATE T. 8/20/2		HED:	16. DATE	E COMPL 3/2008			ABANDONE	ED [	READY TO PROD	UCE 🔽		VATIONS (E 212'GL	F, RKB,	RT, GL):	-
18. TOTAL DEPTH;	ا , ا	95	T	19. PLUG	BACK T.E	).: MD			20. IF N	ULTIPLE C	OMPLETIONS, HO	W MANY? *		TH BRIDGE .UG SET:			
22. TYPE ELECTRIC	TVD C AND OTHER	RMECHAN	IICAL LO	GS RUN (	Submit cop	TVD by of each	)		***	23.	,		<u> </u>		TVD		
CBL-CCL-G					•	•	,			WAS DST	L CORED? RUN? NAL SURVEY?	NO NO	<u> </u>	YES T	(Subm	nit analysis) nit report) nit copy)	
24. CASING AND L	INER RECOR	) (Report a	all string	s set in w	eil)					· · · · · · · · · · · · · · · · · · ·				<u>liminal</u>			
HOLE SIZE	SIZE/GRA	DE	WEIGHT	(#/ft.)	TOP (	MD)	вотто	M (MD)		EMENTER PTH	CEMENT TYPE 8 NO. OF SACKS		RRY E (BBL)	CEMENT	TOP **	AMOUNT PU	LLED
20"	14"	STL	36.	7#			4	0			28						
12 1/4"	9 5/8	J-55	36	#			2,′	160			600						
7 7/8"	4 1/2	I-80	11.	6#			9,	195			1870					<b>-</b>	
			·									<u> </u>	<u> </u>	ļ		<u> </u>	
										·						<del></del>	
05. TUDINO DECO	<u>                                     </u>				<u> </u>		L	· · · · · · · · · · · · · · · · · · ·	<u> </u>	············ <u>·</u>	<u></u>		<del></del>	<u></u>	<u></u>		
25. TUBING RECOR	DEPTH S	ET (MD)	TBACK	ER SET (	MD)	SIZE		DEPTH	SET (MD)	PACKE	R SET (MD)	SIZE		DEPTH SET	(MD) T	PACKER SET	(MD)
2 3/8"	7.6		1 701	LIT OLT		0,22		DEI III	021 (1110)	177012	I (OLI (MD)	0,22	_	72, 111021		171011111011	(11,5)
26. PRODUCING IN	ITERVALS	WS	MUV	2/11	nit	PA	<u> </u>		Ī	27. PERFO	RATION RECORD					·	
FORMATION	NAME	TOP			DM (MD)	<u> </u>	(TVD)	вотто	M (TVD)	INTERVA	L (Top/Bot - MD)	SIZE	NO. HO	LES F	PERFOR	RATION STATUS	3
(A) MESAVE	RDE	7,6	378	9,	114				Ì	7,678	9,114	0.36	129	9 Open	$\overline{\mathcal{L}}$	Squeezed	
(B)														Open		Squeezed	
(C)														Open		Squeezed	
(D)	<del></del>									<del></del>				Open		Squeezed	
28. ACID, FRACTU	RE, TREATME	NT, CEME	NT SQU	EEZE, ET	C.		<u> </u>				·		A				
DEPTH	INTERVAL		T			<u> </u>	<del></del>	·	AMO	T DUNT AND	YPE OF MATERIA						
7678'-9114'	2. 11.1 mm - 1		DME	2 13 2	31 BBI	I S SI	ICK H	2∩ &	487 97	7# 30/5	n sn				<del></del>		
7070-3114			1 1011	10,2	יםם ו		101(11	20 a	107,07	111 0010	0.00		·			· · · · · · · · · · · · · · · · · · ·	
			<del> </del>	<u> </u>													
29. ENCLOSED AT	TACHMENTS:		1									<del></del>		3	30. WELI	L STATUS:	
=	RICAL/MECH/			CEMEN	Γ VERIFIC <i>i</i>	NOITA	=	GEOLOG CORE AN	IC REPOR		DST RÉPORT	DIREC	CTIONAL S			PROD	
(5/2000)	<u> </u>					· · ·	(CO	NTINUI	ED ON E	BACK)	· · · · · · · · · · · · · · · · ·			R	EC	EIVED	)
(212000)							,55							~			

OCT 0 8 2008

DIV. OF OIL, GAS & MINING

31. INITIAL PR	DDUCTION			INT	ERVAL A (As sho	wn in item #26)				
	DATE FIRST PRODUCED: TEST DATE: 9/18/2008 9/24/2008		8	HOURS TESTED	D: 24`	TEST PRODUCTION RATES: →	OIL – BBL:	GAS - MCF: 1,603	WATER - BBL: 323	PROD. METHOD: FLOWING
сноке size: 19/64	TBG. PRESS. 1,001	CSG. PRESS. 1,398	API GRAVITY	BTU GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS - MCF: 1,603	WATER - BBL: 323	INTERVAL STATUS: PROD
				INT	ERVAL B (As sho	wn in item #26)	-			
DATE FIRST PR	ODUCED;	TEST DATE:		HOURS TESTED	D:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKÉ SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS:
				INT	ERVAL C (As sho	wn in item #26)	·			
DATE FIRST PR	ODUCED:	TEST DATE:		HOURS TESTED	);	TEST PRODUCTION RATES: →	OIL - BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD;
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS – MCF:	WATER - BBL:	INTERVAL STATUS:
			<del></del>	INT	ERVAL D (As sho	wn in item #26)	•	· · · · · · · · · · · · · · · · · · ·		
DATE FIRST PR	ODUCED:	TEST DATE:		HOURS TESTED	D;	TEST PRODUCTION RATES: →	OIL BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG, PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS:
32. DISPOSITION SOLD	ON OF GAS (Sold,	Used for Fuel, V	ented, Etc.)							

33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
GREEN RIVER MAHOGANY WASATCH MESAVERDE	1,123 1,857 4,305 6,966	6,807 9,124			

35. ADDITIONAL REMARKS (Include plugging procedure)

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PR

TITLE REGULATORY ANALYST

SIGNATURE

10/6/2008

This report must be submitted within 30 days of

- · completing or plugging a new well
- · drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth

34. FORMATION (Log) MARKERS:

drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to:

Utah Division of Oil, Gas and Mining 1594 West North Temple, Suite 1210

Box 145801

Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

801-359-3940 Fax:

## STATE OF UTAH

DATE 1/21/09	JAN 1 2 2009
OF UTAH DIVISION OF OIL, GAS, AND MINING	RECEIVED
APPROVED BY THE STATE 1/6/2009	
NAIVE (FLEXOL FAINT)	TORY ANALYST
	Date: <u>1 '27 · 2009</u> Initials: <u>K5</u>
	COPY SENT TO OPERATOR
PLEASE REFER TO THE ATTACHED IS THE RECOMPLETION PROCEDURE.	
THE OPERATOR REQUESTS AUTHORIZATION TO RECOMPLETE THE SUBJECT PROPOSES TO RECOMPLETE THE WASATCH AND MESAVERDE FORMATION. COMMINGLE THE NEWLY WASATCH AND MESAVERDE FORMATION, ALONG VERTICAL FORMATION.	. THE OPERATION PROPOSES TO
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, dept	hs, volumes, etc.
COMMINGLE PRODUCING FORMATIONS ☐ RECLAMATION OF WELL SITE  CONVERT WELL TYPE	OTHER:
SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:  CHANGE WELL NAME PLUG BACK PRODUCTION (START/RESUME)	WATER SHUT-OFF
CHANGE TO PREVIOUS PLANS OPERATOR CHANGE CHANGE TUBING PLUG AND ABANDON	TUBING REPAIR  VENT OR FLARE
(Submit in Duplicate)  Approximate date work will start:  Approximate date work will start:  CASING REPAIR  NEW CONSTRUCTION	SIDETRACK TO REPAIR WELL  TEMPORARILY ABANDON
TYPE OF SUBMISSION TYPE OF ACTION  ✓ NOTICE OF INTENT  ACIDIZE  DEEPEN  DEEPEN	REPERFORATE CURRENT FORMATION
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE,	REPORT, OR OTHER DATA
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SESW 13 10S 21E	STATE: UTAH
4. LOCATION OF WELL FOOTAGES AT SURFACE: 948'FSL, 1602'FWL	COUNTY: UINTAH
3. ADDRESS OF OPERATOR: 1368 SOUTH 1200 EAST CATY VERNAL STATE UT 219 84078 PHONE NUMBER: (435) 781-70	10. FIELD AND POOL, OR WILDCAT: 024 NATURAL BUTTES
2. NAME OF OPERATOR: KERR McGEE OIL & GAS ONSHORE LP	9. API NUMBER: 4304739107
drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.  1. TYPE OF WELL OIL WELL GAS WELL OTHER	8. WELL NAME and NUMBER: NBU 1021-13N
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole denth, reenter plugged we	7. UNIT or CA AGREEMENT NAME: UNIT #891008900A
SUNDRY NOTICES AND REPORTS ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING	5. LEASE DESIGNATION AND SERIAL NUMBER: ML-23608

(5/2000)

DIV. OF OIL, GAS & MINING

Name: NBU 1021-13N

Location: SE SW Sec 13 T10S R21E

**Uintah County, UT** 

Date:

01/02/2009

**ELEVATIONS:** 

5209 GL

5224 KB

TOTAL DEPTH:

9195

**PBTD:** 9127

SURFACE CASING: PRODUCTION CASING:

9 5/8", 36# J-55 ST&C @ 2092' 4 1/2", 11.6#, I-80 LT&C @ 9164'

Marker Joint **4259-4280**'

#### **TUBULAR PROPERTIES:**

	BURST	COLLAPSE	DRIFT DIA.	CAPACITIES	
	(psi)	(psi)	(in.)	(bbl/ft)	(gal/ft)
2 3/8" 4.7# J-55	7,700	8,100	1.901"	0.00387	0.1624
tbg					
4 ½" 11.6# I-80	7780	6350	3.875"	0.0155	0.6528
(See above)					
2 3/8" by 4 ½"				0.0101	0.4227
Annulus					

#### **TOPS:**

1160' Green River

1284' Birds Nest

1875' Mahogany

4305' Wasatch

6966' Mesaverde

Estimated T.O.C. from CBL @ 2970'

#### **GENERAL**:

- A minimum of 14 tanks (cleaned lined 500 bbl) of recycled water will be required. Note: Use biocide in tanks and the water needs to be at least 45°F at pump time.
- All perforation depths are from Halliburtons Induction-Density-Neutron log dated 08/20/2008
- 5 fracturing stages required for coverage.
- Procedure calls for 5 CBP's (8000 psi) and 1 Flow Through Plug
- Calculate open perforations after each breakdown. If less than 60% of the perforations appear to be open, ball out with 15% HCl.
- Put scale inhibitor 3 gals/1000 gals (in pad and ½ the ramp) and 10 gals/1000 gals in all flushes except the final stage. Remember to pre-load the casing with scale inhibitor for the very first stage with 10 gpt.
- 30/50 mesh Ottawa sand, Slickwater frac.
- Maximum surface pressure 6200 psi.

- Flush volumes are the sum of slick water and acid used during displacement (include scale inhibitor as mentioned above). DO NOT OVERDISPLACE. Stage acid and scale inhibitor if necessary to cover the next perforated interval.
- Service companies need to provide surface/production annulus pop-offs to be set for 1500 psi for each frac.
- Pump 20/40mesh resin coated sand last 5,000# of all frac stages
- Tubing Currently Landed @~7651
- Originally completed on 9/15/2008

#### **Existing Perforations:**

7678	7681	3	9
7738	7742	3	12
7795	7802	3	21
8360	8364	3	12
8401	8404	3	9
8453	8460	3	21
8609	8612	3	9
8681	8687	3	18
8773	8778	3	15
8957	8960	4	12
9100	9104	4	16
9110	9114	4	16
	7738 7795 8360 8401 8453 8609 8681 8773 8957 9100	7738 7742 7795 7802 8360 8364 8401 8404 8453 8460 8609 8612 8681 8687 8773 8778 8957 8960 9100 9104	7738 7742 3 7795 7802 3 8360 8364 3 8401 8404 3 8453 8460 3 8609 8612 3 8681 8687 3 8773 8778 3 8957 8960 4 9100 9104 4

#### **PROCEDURE:**

- MIRU. Control well with recycled water and biocide as required. ND WH, NU BOP's and test.
- 2. If the tubing is below the proposed CBP depth, TOOH with 2-3/8", 4.7#, J-55 (or N-80) tubing (currently landed at ~7651'). Visually inspect for scale and consider replacing if needed. If the tubing is above the proposed CBP depth, RIH with tubing and tag for fill before TOOH.
- 3. If the looks ok consider running a gauge ring to 7648 (50' below proposed Flow Though Plug). Otherwise P/U a mill and C/O to 7648 (50' below proposed Flow Though Plug).
- 4. Set 8000 psi Flow Through Plug at  $\sim 7598$ '. Pressure test BOP and casing to 6000 psi.
- 5. Perf the following with 3-3/8" gun, 23 gm, 0.36"hole:

Zone	From	To	spf	# of shots
<b>MESAVERDE</b>	7385	7388	3	9
<b>MESAVERDE</b>	7470	7476	3	18
<b>MESAVERDE</b>	7563	7568	3	15

- 6. Breakdown perfs and establish injection rate (<u>include scale inhibitor in fluid</u>). Spot 250 gals of 15% HCL and let soak 5-10 min. Fracture as outlined in Stage 1 on attached listing. Under-displace to ~7335' and trickle 250gal 15%HCL w/ scale inhibitor in flush.
- 7. Set 8000 psi CBP at ~7306'. Perf the following 3-3/8" gun, 23 gm, 0.36"hole:

```
Zone
             From
                    To
                               # of shots
                          spf
MESAVERDE 7110
                    7113
                          3
                                 9
MESAVERDE 7160
                    7164
                          3
                                 12
MESAVERDE 7269
                   7276
                          3
                                 21
```

- 8. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 2 on attached listing. Under-displace to ~7072' and trickle 250gal 15%HCL w/ scale inhibitor in flush. NOTE TIGHT SPACING
- 9. Set 8000 psi CBP at  $\sim$ 7062'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

```
Zone From To spf # of shots
MESAVERDE 6983 6990 3 21
MESAVERDE 7024 7032 3 24
```

- 10. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 3 on attached listing. Under-displace to ~6933' trickle 250gal 15%HCL w/ scale inhibitor in flush.
- 11. Set 8000 psi CBP at ~5792'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

Zone From To spf # of shots WASATCH 5752 5762 4 40

- 12. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 4 on attached listing. Under-displace to ~5702' and trickle 250gal 15%HCL w/ scale inhibitor in flush.
- 13. Set 8000 psi CBP at ~5136'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

Zone From To spf # of shots WASATCH 5096 5106 4 40

- 14. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 5 on attached listing. Under-displace to ~5046' and flush only with recycled water. NOTE RATE IS 40 BPM
- 15. Set 8000 psi CBP at ~5046'.
- 16. TIH with 3 7/8" mill, sliding sleeve, SN and tubing.
- 17. Mill plugs (DO NOT DRILL FLOW THROUGH PLUG @ 7598') and clean out to 7598. Land tubing at  $\pm 7080$ ' and open sleeve unless indicated otherwise by the well's behavior. This well will be commingled at this time.
- 18. RDMO
- 19. Clean out well with foam and/or swabbing unit until steady flow has been established from recomplete.
- 20. MIRU
- 21. Mill Flow Though Plug and commingle well. Land tubing at ~8579'

For design questions, please call Curtis Caile, Denver, CO (406)-490-2742 (Cell) (720)-929-6194 (Office)

For field implementation questions, please call Robert Miller, Vernal, UT 4350781 7041 (Office)

NOTES:

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Zone  1 MESAVERDE MESAVERDE	_	Per	rfs			Rate	Fluid	initial	Final	Fluid	Volume	Cum Voi	Volume	Cum Vol	Fluid	Sand	Sand	Cum. Sand	Footage from	S In
1 MESAVERDE	of Pay To	op, ft.	Bot. ft	SPF	Holes		Туре	ppg	<b>\</b>		gals	gais	BBLs	BBLs	% of frac	% of frac		lbs	CBP to Flush	
				-	,,,,,,,			PPS	PPS		yanz				Het	A GI HEL	123	ius	CDF IU FIOSII	1
MESAVERUE	15	7385	7388	3	9		Pump-in test			Slickwater		0	0	0						ļ
MESAVERDE	1 0	7470 7563	7476 7568	3	18 15	50	ISIP and 5 min ISIP Slickwater Pad			Official	6 000	0.000	142	140			١.	. ا		
MESAVERDE	0			J	15		Slickwater Ramp	0.05	Ι.	Slickwater	6,000	6,000	143		15 0%	0.0%		J		
			No Peris					0.25		Slickwater	11,333	17,333	270		28.3%	17.2%				İ
MESAVERDE	4		No Perfs	1			SW Sweep	0		Slickwater	0	17,333	0			0.0%		7,083		l
MESAVERDE	27		No Perfs				Slickwater Ramp	1		Stickwater	11,333	28,667	270		28.3%	34.5%	14,167			
MESAVERDE	14		No Perfs				SW Sweep	0	0	Slickwater	0	28,667	0			0.0%	0	21,250		
MESAVERDE	19	١	No Perfs	1			Slickwater Ramp	0.5		Slickwater	0	28,667	0	683		0.0%	0	21,250		
MESAVERDE	2	•	No Perfs		1 1		Slickwater Ramp	1.5	2	Slickwater	11,333	40,000	270	952	28.3%	48.3%	19,833	41,083		1
MESAVERDE	D		1	1	)	50	Flush (4-1/2")	1			4.788	44,788	114	1,066				41,083		Ι.
MESAVERDE	Ď						ISDP and 5 min ISDF	j	1			44,788						' ' '		М
MESAVERDE	0											· '		i						
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MESAVERDE	Û				i			i l		Sand laden \	/olume	40,000			l					1
1												40,000				gal/ft	500	514	lbs sand/ft	
	80		# of Perfe	vatane	42							i	F	lush depth	7335		CBP depth		29	l
i			1	i	7-	21.3	<< Above pump time	(min)		i				i depui	1333	ì	i depui	1,300	29	ı
MESAVERDE	g	7110	7113	,			Pump-in test	(mari)		Official	[ ]	o	). N	ا ا			1	}		1
MESAVERDE	1	7160	7164	3	ادّ ا		ISIP and 5 min ISIP	i i		Slickwater	! !	٩	U	이						l l
MESAVERDE				3	12						0.400	0.400	204	ا ممدا			١.			
	0	7269	7276	3	21		Slickwater Pad			Slickwater	8,438	8,438	201	201	15.0%	0.0%	0	에 이		ι.
MESAVERDE	9		No Perfs	1	i i		Slickwater Ramp	0.25		Slickwater	15,938	24,375	379		28 3%	17.2%	9,961			ŀ
MESAVERDE	5		No Perfs				SW Sweep	0		Slickwater	0	24,375	0			0.0%	[ 0	0,001		
MESAVERDE	17		No Perfs				Slickwater Ramp	1		Slickwater	15,938	40,313	379		28.3%	34.5%	19,922			
MESAVERDE	1		No Perfs				SW Sweep	0		Slickwater	0	40,313	0			0.0%	0			
MESAVERDE	0		No Perfs				Slickwater Ramp	0.5		Slickwater	0	40,313	0			0.0%	0	29,883		ļ
MESAVERDE	1		No Perfs				Siickwater Ramp	15	2	Slickwater	15,938	56,250	379	1,339	28.3%	48.3%	27,891			
MESAVERDE	0	N	No Perfs				Flush (4-1/2*)			1	4,617	60,867	110		]			57,773		Ι.
MESAVERDE	1	N	No Perfs				ISDP and 5 min ISDP	,			'	60,867		' 1						
MESAVERDE	29	N	No Perfs									-,						1		ľ
MESAVERDE	1		to Perfs								ļ						1	1		ı
MESAVERDE	5		lo Perfs		[					Sand laden V	I /olume	56,250			- 1					
	•									Sanu lauell v	lume	30,230					750			
	75		of Perfa	ا ۔۔۔ا	42	- 1		\			\ \	1	_		7072	gal/ft	CBP depth	7 000	lbs sand/fi	ì
1.5	73		W OI FBIRE	recage	**			[					-	lush depth	1012	١ ١	aepm	17,062	10	
14504) EDDE		~~~					<< Above pump time	(min)		L	1	ا						1 .		
MESAVERDE	9	6983	6990	3			Pump-in test			Slickwater	1 1	0	0	0	1			1		ŀ
MESAVERDE	18	7024	7032	3	24		ISIP and 5 min ISIP													
MESAVERDE	4		lo Perfs				Slickwater Pad			Slickwater	11,700	11,700	279	279	15.0%	0.0%	0	이		
MESAVERDE	18	N	to Perfs	- 1			Slickwater Ramp	0.25	1	Slickwater	22,100	33,800	526	805	28.3%	16.6%	13,813	13,813		
MESAVERDE	2	N	lo Perfs		- 1	50	SW Sween	0	0	Slickwater	0	33,800	0	805		0.0%	0	13,813		
MESAVERDE	0	N	lo Perfs			50	Slickwater Ramp	1		Slickwater	22,100	55,900	526	1,331	28.3%	33.2%	27,625			:
MESAVERDE	3	N	lo Perfs	- 1			SW Sweep	0		Slickwater	5,250	61,150	125	1,456		0.0%	0			
MESAVERDE	0	N	lo Perfs		- 1		Slickwater Ramp	0.5	1.5	Slickwater	3,000	64,150	71	1,527	l l	3.6%	3,000			
MESAVERDE	0				·		Slickwater Ramp	1.5		Slickwater	22,100	83 250	526	1,982	28.3%	46.5%	38,675			
MESAVERDE	ō				ı		Flush (4-1/2")		-	O.J.O.M.I.G.O.	4,526	87,776	108	2,090	20.5 %	40.570	50,075	83,113		
MESAVERDE	Ö		ì	Ì	1		ISDP and 5 mm ISDP	; ]			1,020	87,776	100	2,090	- 1	ľ		03,113	+	
MESAVERDE	ū					- 1	1001 100 5 1110 1001				ĺ	07,770			- 1				1	1
MESAVERDE	D D		l					ı								- 1				
	0			ľ	ŀ	1				Sand laden V	!.	78,000				i				
										Oalto laneu A	UIUM	10,000		ľ	1			1 1		
MESAVERDE																	4 500	. 4 - 00		
MESAVERDE	_		# a4 0a 4										_			gal/ft		1,598	lbs sand/ft	
MESAVERDE	52		of Perfe	/stage	45								F	ush depth	6933		1,500 BP depth	1,598 5,792	liss sand/ft 1,141	
	52		- 1	/stage			<< Above pump time	(min)							6933			1,598 5,792		
WASATCH	52 0	5752	5762	/stage 4		Varied	Pump-in test	(min)		Slickwater		0	<b>F</b> i	ush depth 0	6933			1,598 5,792		
Wasatch Wasatch	52 0 10	5752 N	5762 lo Perfs	/stage 4		Varied 0	Pump-in test ISIP and 5 min ISIP	(min)		Slickwater		0	0		6933			1,598 5,792		
Wasatch Wasatch Wasatch	52 0	5752 N	5762	⁄stage 4		Varied 0 50	Pump-in test ISIP and 5 min ISIP Slickwater Pad		İ	Slickwater Slickwater	3,750	0 3,750			<b>6933</b>			1,598 5,792		
Wasatch Wasatch Wasatch Wasatch	52 0 10	5752 N	5762 lo Perfs	/stage 4		Varied 0 50 50	Pump-in test SIP and 5 min ISIP Slickwater Pad Slickwater Ramp	(min) 0.25	ĺ		3,750 7,083		0	0				1,598 5,792 0 4,427		
Wasatch Wasatch Wasatch Wasatch Wasatch	52 0 10 3 0	5752 N	5762 lo Perfs lo Perfs	⁄stage 4		Varied 0 50 50 50	Pump-in test ISIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sweep		1	Slickwate/		3,750	0	0	15.0%	0.0%	CBP depth	0 4,427		
Wasatch Wasatch Wasatch Wasatch Wasatch Wasatch	52 0 10 3	5752 N	5762 lo Perfs lo Perfs	⁄stage 4		Varied 0 50 50 50 50	Pump-in test ISIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sweep Slickwater Ramp	0.25	1	Slickwater Slickwater	7,083	3,750 10,833	0 89 169	0 89 258	15.0%	0.0% 17.2%	0 4,427	0 4 427 4 427		
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0	5752 N	5762 lo Perfs lo Perfs	/stage 4		Varied 0 50 50 50 50 50	Pump-in test ISIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sween Slickwater Ramp SIK Sween Slickwater Ramp	0.25	1 0 1.5	Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0	3,750 10,833 10,833	0 89 169 0	0 89 258 258	15.0% 28.3%	0.0% 17.2% 0.0%	0 4,427 0	0 4,427 4,427 13,281		
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0	5752 N	5762 lo Perfs lo Perfs	/stage		Varied 0 50 50 50 50 50	Pump-in test ISIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sweep Slickwater Ramp	0.25 0 1	1 0 1.5	Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083	3,750 10,833 10,833 17,917	0 89 169 0 169	0 89 258 258 427	15.0% 28.3%	0.0% 17.2% 0.0% 34.5%	0 4,427 0 8,854	0 4,427 4,427 13,281		
Wasatch Wasatch Wasatch Wasatch Wasatch Wasatch Wasatch Wasatch	52 0 10 3 0 0	5752 N	5762 lo Perfs lo Perfs	/stage		Varied 0 50 50 50 50 50	Pump-in test ISIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sween Slickwater Ramp SIK Sween Slickwater Ramp	0.25 0 1 0	1 0 1.5 0 1.5	Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0	3,750 10,833 10,833 17,917 17,917	0 89 169 0 169 0	0 89 258 258 427 427	15.0% 29.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0%	0 4,427 0 8,854 0	0 4,427 4,427 13,281 13,281 13,281		
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0	5752 N	5762 lo Perfs lo Perfs	⁄stage 4		Varied 0 50 50 50 50 50 50	Pump-in test ISIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sween Slickwater Ramp Slickwater Ramp SW Sween Slickwater Ramp Slickwater Ramp	0.25 0 1 0 0.5	1 0 1.5 0 1.5	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 7,083	3,750 10,833 10,833 17,917 17,917 17,917 25,000	0 89 169 0 169 0	89 258 258 427 427 427 595	15.0% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0%	0 4,427 0 8,854	0 4,427 4,427 13,281 13,281 13,281 25,677		
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0 0	5752 N	5762 lo Perfs lo Perfs	⁄stage 4		Varied 0 50 50 50 50 50 50 50 50 50	Pump-in test SIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sweap Siickwater Ramp SW Sweep Slickwater Ramp Slickwater Ramp Slickwater Ramp	0.25 0 1 0 0.5	1 0 1.5 0 1.5	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722	0 89 169 0 169 0 169	0 89 258 258 427 427 427	15.0% 29.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0%	0 4,427 0 8,854 0	0 4,427 4,427 13,281 13,281 13,281		
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0 0	5752 N	5762 lo Perfs lo Perfs	⁄stage 4		Varied 0 50 50 50 50 50 50 50 50 50	Pump-in test SIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sweep Silckwater Ramp SW Sweep Slickwater Ramp Slickwater Ramp Slickwater Ramp Flush (4-1/2')	0.25 0 1 0 0.5	1 0 1.5 0 1.5	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 7,083	3,750 10,833 10,833 17,917 17,917 17,917 25,000	0 89 169 0 169 0 169	89 258 258 427 427 427 595	15.0% 29.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0%	0 4,427 0 8,854 0	0 4,427 4,427 13,281 13,281 13,281 25,677		
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0 0 0	5752 N	5762 lo Perfs lo Perfs	/stage		Varied 0 50 50 50 50 50 50 50 50 50	Pump-in test SIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sweep Silckwater Ramp SW Sweep Slickwater Ramp Slickwater Ramp Slickwater Ramp Flush (4-1/2')	0.25 0 1 0 0.5	1 0 1.5 0 1.5	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 7,083	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722	0 89 169 0 169 0 169	89 258 258 427 427 427 595	15.0% 29.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0%	0 4,427 0 8,854 0	0 4,427 4,427 13,281 13,281 13,281 25,677		
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0 0	5752 N	5762 lo Perfs lo Perfs	/stage		Varied 0 50 50 50 50 50 50 50 50 50	Pump-in test SIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sweep Silckwater Ramp SW Sweep Slickwater Ramp Slickwater Ramp Slickwater Ramp Flush (4-1/2')	0.25 0 1 0 0.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722 28,722	0 89 169 0 169 0 169	89 258 258 427 427 427 595	15.0% 29.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0%	0 4,427 0 8,854 0	0 4,427 4,427 13,281 13,281 13,281 25,677		
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0 0 0	5752 N	5762 lo Perfs lo Perfs	/stage		Varied 0 50 50 50 50 50 50 50 50 50	Pump-in test SIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sweep Silckwater Ramp SW Sweep Slickwater Ramp Slickwater Ramp Slickwater Ramp Flush (4-1/2')	0.25 0 1 0 0.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722	0 89 169 0 169 0 169	89 258 258 427 427 427 595	15.0% 29.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0% 48.3%	0 4,427 0 8,854 0 12,396	0 4,427 4,427 13,281 13,281 13,281 25,677 25,677	1,141	
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0	5752 N N N	5762 lo Perfs lo Perfs lo Perfs	4	40	Varied 0 50 50 50 50 50 50 50 50 50	Pump-in test SIP and 5 min ISIP Slickwater Pad Slickwater Ramp SW Sweep Silckwater Ramp SW Sweep Slickwater Ramp Slickwater Ramp Slickwater Ramp Flush (4-1/2')	0.25 0 1 0 0.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722 28,722	0 89 169 0 169 0 169 89	0 89 258 258 427 427 427 595 684	15.0% 28.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0% 48.3%	0 4,427 0 8,854 0 12,396	0 4,427 4,427 13,281 13,281 13,281 25,677 25,677	1,141	
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0 0 0	5752 N N N	5762 lo Perfs lo Perfs	4		Varied 0 50 50 50 50 50 50 50	Pump-in test SIP and 5 min ISIP SIICkwater Pad Slickwater Ramp SW Sweep Silckwater Ramp SW Sweep Slickwater Ramp SIK Sweep Slickwater Ramp Slickwater Ramp Slickwater Ramp Slickwater Ramp Flush (4-1/2') SDP and 5 min ISDP	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722 28,722	0 89 169 0 169 0 169 89	89 258 258 427 427 427 595	15.0% 28.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0% 48.3%	0 4,427 0 8,854 0 12,396	0 4,427 4,427 13,281 13,281 13,281 25,677 25,677	1,141	
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0	5752 N N N	5762 to Perfs to Perfs to Perfs	4	40	Varied 0 50 50 50 50 50 50 50 50 50 50 50 50 5	Pump-in test Silickwater Pad Silickwater Pad Silickwater Ramp SM Sweep Silickwater Ramp SM Sweep Silickwater Ramp SM Sweep Silickwater Ramp Si	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722 28,722 25,000	0 89 169 0 169 0 169 89	89 258 258 427 427 427 595 684	15.0% 28.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0% 48.3%	0 4,427 0 8,854 0 12,396	0 4,427 4,427 13,281 13,281 13,281 25,677 25,677	1,141	
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0 0 0	5752 N N: N:	5762 to Perfs to Perfs to Perfs	4	40	Varied 0 50 50 50 50 50 50 50 50 50 50 50 50 5	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sween SIICkwater Ramp SW Sween SIICkwater Ramp SW Sween SIICkwater Ramp Flush (4-1/2") SDP and 5 min ISDP	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722 28,722	0 89 169 0 169 0 169 89	0 89 258 258 427 427 427 595 684	15.0% 28.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0% 48.3%	0 4,427 0 8,854 0 12,396	0 4,427 4,427 13,281 13,281 13,281 25,677 25,677	1,141	
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0 0 0 0 0	5752 N N N N	5762 to Perfs to Perfs to Perfs 4 of Perfs 5106 to Perfs	4	40	Varied 0 50 50 50 50 50 50 50 50 50 50 50 50 5	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIK SWEEP SIK	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 7,083 3,722	3,750 10,833 10,833 17,917 17,917 25,000 28,722 28,722 25,000	0 89 169 0 169 0 0 169 89	0 89 258 258 427 427 427 595 684	15.0% 28.3% 28.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0% 48.3%	0 4,427 0 8,854 0 12,396	0 4,427 4,427 13,281 13,281 13,281 25,677 25,677	1,141	
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N S 5096 Ne	5762 to Perfs to Perfs to Perfs 5106 to Perfs 5106 to Perfs to Perfs to Perfs	4	40	Varied 0 50 50 50 50 50 50 50 50 50 50 50 60 60 60 60 60 60 60 60 60 60 60 60 60	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SIIckwater Ramp Lush (4-1,2") SDP and 5 min ISIP Very Pad Sin ISIP SIP and 5 min ISIP SIP and 5 min ISIP SIP and 5 min ISIP	0.25 0 1 0 0.5, 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 7,083 3,722	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722 28,722 25,000	0 89 169 0 169 0 169 89	0 89 258 258 427 427 427 595 684	15.0% 28.3% 28.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0% 48.3%	0 4,427 0 8,854 0 0 12,396 2,000 CBP depth	0 0 4.427 13.261 13.261 13.281 25.677 25.677 25.675 6,136	1,141	
WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N N: N: N: 5096 N: N: N:	5762 lo Perís lo Perís lo Perís lo Perís lo Perís co Perís o Perís o Perís	4	40	Varied 0 50 50 50 50 50 50 50 50 50 50 40 40 40 40 40 5	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIICkwater Ramp SW Sweep SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp Flush (4-1/2") SDP and 5 min ISIP SIICkwater Ramp Isin (4-1/2") SDP and 5 min ISIP SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722 28,722 25,000 0 3,261 9,420	0 89 169 0 169 0 0 169 89	0 89 258 258 427 427 427 595 684 ush depth	15.0% 28.3% 28.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0% 48.3%	0 4,427 0 8,854 0 12,396	0 0 4.427 13.261 13.261 13.281 25.677 25.677 25.675 6,136	1,141	
WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N N S 5096 N N N N N	5762 Io Perfs Io Perfs To Perfs	4	40	Varied 0 50 50 50 50 50 50 50 50 50 40 40 40 5	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK SWeep SIK SWeep SIK SKEEP SIP and 5 min ISIP SIK SIK Sweep SIK Sweep SIK Sweep SIK Sweep SIK Sweep	0.25 0 1 0 0.5, 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 7,083 3,722	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722 28,722 25,000	0 89 169 0 169 0 169 89	0 89 258 258 427 427 427 595 684	15.0% 28.3% 28.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0% 48.3%	0 4,427 0 8,854 0 0 12,396 2,000 CBP depth	0 0 4.427 13.261 13.261 13.281 25.677 25.677 25.675 6,136	1,141	
WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N N S 5096 N N N N N	5762 lo Perís lo Perís lo Perís lo Perís lo Perís co Perís o Perís o Perís	4	40	Varied 0 50 50 50 50 50 50 50 50 50 40 40 40 5	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIICkwater Ramp SW Sweep SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp Flush (4-1/2") SDP and 5 min ISIP SIICkwater Ramp Isin (4-1/2") SDP and 5 min ISIP SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp SIICkwater Ramp	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 17,917 25,000 28,722 28,722 25,000 0 3,261 9,420	0 89 169 0 169 0 0 169 89 89	0 89 258 258 427 427 427 595 684 ush depth	15.0% 28.3% 28.3% 28.3% 5702	0.0% 17.2% 0.0% 34.5% 0.0% 0.0% 48.3% gal/%	0 4,427 0 8,854 0 0 12,396 2,000 CBP depth	0 0 4.427 4.427 13.281 13.281 25.677 25.677 2,054 5,136	1,141	
WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N N S 5096 N N N N N	5762 Io Perfs Io Perfs To Perfs	4	40	Varied 0 50 50 50 50 50 50 50 50 50 40 40 40 40 40 40 40 5	Pump-in test SIP and 5 min ISIP SIII kilk water Pad SIII kilk water Pad SIII kwater Ramp SIV Sweep SIII kwater Ramp SIV Sweep SIII kwater Ramp SIII kwater Ramp SIII kwater Ramp SIII kwater Ramp Lush (4-1/2') SDP and 5 min ISIP Pump-in test SIII kwater Pad SIII kwater Pad SIII kwater Ramp SIII kwater Ramp SIII kwater Ramp SIII kwater Ramp SIII kwater Ramp	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0,08 3,722 olume	3,750 10,833 10,833 17,917 17,917 125,000 28,722 28,722 25,000 0 3,261 9,420 9,420 9,420	0 89 169 0 0 169 0 0 0 0 89 78 147 147	0 89 258 258 427 427 595 684 ush depth 0 78 224 224 371	15.0% 28.3% 28.3% 28.3%	0.0% 17.2% 10.0% 34.5% 0.0% 48.3% gaL/A C	0 4,427 0 8,854 0 0 12,396 2,000 CBP depth	0 0 4.427 4.427 13.281 13.281 25.677 25.677 2,054 5,136 0 3.849 3.849 11.548	1,141	
WASATCH WASATCH	52 0 10 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N N S 5096 N N N N N	5762 Io Perfs Io Perfs To Perfs	4	40	Varied 0 0 500 500 500 500 500 500 500 400 940 940 940 940 940 940 940 940 9	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SIIckwater Ramp SIIckwater Ramp SIIckwater Ramp Flush (4-1/2") SDP and 5 min ISIP SIIckwater Ramp SW Sweep SIICkwater Ramp SW Sweep	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 25,000 28,722 28,722 25,000 0 3,261 9,420 9,420 15,579	0 89 169 0 169 0 169 89 78 147 0 147	0 89 258 258 427 427 427 595 684 ush depth 0 78 224 224 371 371	15.0% 28.3% 28.3% 28.3% 5702	0.0% 17.2% 0.0% 34.5% 0.0% 46.3% 9al/ii C	0 4,427 0 8,854 0 0 12,396 2,000 CBP depth 0 3,849 0 7,699 0	0 0 4.427 4.427 13.281 13.281 25.677 25.677 2,054 5,136	1,141	
WASATCH WASATCH	52 0 10 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N N S 5096 N N N N N	5762 Io Perfs Io Perfs To Perfs	4	40	Varied 0 0 500 500 500 500 500 500 500 500 400 9	Pump-in test Silickwater Pad Silickwater Pad Silickwater Ramp	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 25,000 28,722 28,722 25,000 0 3,261 9,420 9,420 15,579 15,579	0 89 169 0 169 0 169 89 0 78 147 0 147	0 89 258 427 427 595 684 ush depth 0 78 224 371 371	15.0% 28.3% 28.3% 28.3% 5702	0.0% 0.0% 17.2% 0.0% 34.5% 0.0% 48.3% 9al/h C C	0 4,427 0 8,854 0 0 0 12,396 2,000 CBP depth 0 0 7,699 0 0 0 0 0	0 0 4.427 4.427 13.281 13.281 25.677 25.677 2,054 5,136 0 3.849 3.849 11.548 11.548 11.548	1,141	
WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N N S 5096 N N N N N	5762 Io Perfs Io Perfs To Perfs	4	40	Varied 0 0 500 500 500 500 500 500 500 400 9 40 9 4	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIICkwater Ramp SW Sweep SIICkwater Ramp SW Sweep SIICkwater Ramp Siickwater Ramp Siickwater Ramp Siickwater Ramp Composition of the sill sill sill sill sill sill sill sil	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater Stickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 125,000 28,722 28,722 25,000 0 3,261 9,420 9,420 9,420 9,45 15,579 15,579 15,579 15,579	0 89 169 0 169 0 169 89 0 78 147 0 147 0 147 0	0 89 258 258 427 427 595 684 ush depth 0 78 224 224 371 371 371 371	15.0% 28.3% 28.3% 28.3% 5702	0.0% 17.2% 0.0% 34.5% 0.0% 46.3% 9al/ii C	0 4,427 0 8,854 0 0 12,396 2,000 CBP depth 0 3,849 0 7,699 0	0 0 4,427 4,427 13,281 13,281 25,677 25,677 2,054 5,136 0 3,849 3,849 11,548 11,548 11,548 22,326 22,326	1,141	
WASATCH WASATCH	52 0 10 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N N S 5096 N N N N N	5762 Io Perfs Io Perfs To Perfs	4	40	Varied 0 0 50 50 50 50 50 50 60 40 9 40 9 40 9 40 9 40 9 40 9 40 9	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SIIckwater Ramp SIIckwater Ramp Flush (4-1/2') SDP and 5 min ISIP SIIckwater Ramp	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 25,000 28,722 28,722 25,000 0 3,281 9,420 9,420 9,420 15,579 15,579 21,738 25,032	0 89 169 0 169 0 169 89 0 78 147 0 147	0 89 258 427 427 595 684 ush depth 0 78 224 371 371	15.0% 28.3% 28.3% 28.3% 5702	0.0% 0.0% 17.2% 0.0% 34.5% 0.0% 48.3% 9al/h C C	0 4,427 0 8,854 0 0 0 12,396 2,000 CBP depth 0 0 7,699 0 0 0 0 0	0 0 4.427 4.427 13.281 13.281 25.677 25.677 2,054 5,136 0 3.849 3.849 11.548 11.548 11.548	1,141	
WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N N S 5096 N N N N N	5762 Io Perfs Io Perfs To Perfs	4	40	Varied 0 0 50 50 50 50 50 50 60 40 9 40 9 40 9 40 9 40 9 40 9 40 9	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIICkwater Ramp SW Sweep SIICkwater Ramp SW Sweep SIICkwater Ramp Siickwater Ramp Siickwater Ramp Siickwater Ramp Composition of the sill sill sill sill sill sill sill sil	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 125,000 28,722 28,722 25,000 0 3,261 9,420 9,420 9,420 9,45 15,579 15,579 15,579 15,579	0 89 169 0 169 0 169 89 0 78 147 0 147 0 147 0	0 89 258 258 427 427 595 684 ush depth 0 78 224 224 371 371 371 371	15.0% 28.3% 28.3% 28.3% 5702	0.0% 0.0% 17.2% 0.0% 34.5% 0.0% 48.3% 9al/h C C	0 4,427 0 8,854 0 0 0 12,396 2,000 CBP depth 0 0 7,699 0 0 0 0 0	0 0 4,427 4,427 13,281 13,281 25,677 25,677 2,054 5,136 0 3,849 3,849 11,548 11,548 11,548 22,326 22,326	1,141	
WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N N S 5096 N N N N N	5762 Io Perfs Io Perfs To Perfs	4	40	Varied 0 0 50 50 50 50 50 50 60 40 9 40 9 40 9 40 9 40 9 40 9 40 9	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SIIckwater Ramp SIIckwater Ramp Flush (4-1/2') SDP and 5 min ISIP SIIckwater Ramp	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 25,000 28,722 28,722 25,000 0 3,281 9,420 9,420 9,420 15,579 15,579 21,738 25,032	0 89 169 0 169 0 169 89 0 78 147 0 147 0 147 0	0 89 258 258 427 427 595 684 ush depth 0 78 224 224 371 371 371 371	15.0% 28.3% 28.3% 28.3% 5702	0.0% 0.0% 17.2% 0.0% 34.5% 0.0% 48.3% 9al/h C C	0 4,427 0 8,854 0 0 0 12,396 2,000 CBP depth 0 0 7,699 0 0 0 0 0	0 0 4,427 4,427 13,281 13,281 25,677 25,677 2,054 5,136 0 3,849 3,849 11,548 11,548 11,548 22,326 22,326	1,141	
WASATCH WASATCH	52 0 10 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N N S 5096 N N N N N	5762 Io Perfs Io Perfs To Perfs	4	40	Varied 0 0 50 50 50 50 50 50 60 40 9 40 9 40 9 40 9 40 9 40 9 40 9	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SIIckwater Ramp SIIckwater Ramp Flush (4-1/2') SDP and 5 min ISIP SIIckwater Ramp	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2 1 1 0 1.5 0 1.5 2 2 1 1 0 1 1 5 0 1 1	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 25,000 28,722 28,722 25,000 0 3,281 9,420 9,420 9,420 15,579 15,579 21,738 15,579 21,738 25,032 25,032	0 89 169 0 169 0 169 89 0 78 147 0 147 0 147 0	0 89 258 258 427 427 595 684 ush depth 0 78 224 224 371 371 371 371	15.0% 28.3% 28.3% 28.3% 5702	0.0% 0.0% 17.2% 0.0% 34.5% 0.0% 48.3% 9al/h C C	0 4,427 0 8,854 0 0 0 12,396 2,000 CBP depth 0 0 7,699 0 0 0 0 0	0 0 4,427 4,427 13,281 13,281 25,677 25,677 2,054 5,136 0 3,849 3,849 11,548 11,548 11,548 22,326 22,326	1,141	
WASATCH WASATCH	52 0 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N N N N N S 5096 N N N N N	5762 Io Perfs Io Perfs To Perfs	4	40	Varied 0 0 50 50 50 50 50 50 60 40 9 40 9 40 9 40 9 40 9 40 9 40 9	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SIIckwater Ramp SIIckwater Ramp Flush (4-1/2') SDP and 5 min ISIP SIIckwater Ramp	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2 1 1 0 1.5 0 1.5 2 2 1 1 0 1 1 5 0 1 1	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 25,000 28,722 28,722 25,000 0 3,281 9,420 9,420 9,420 15,579 15,579 21,738 25,032	0 89 169 0 169 0 169 89 0 78 147 0 147 0 147 0	0 89 258 258 427 427 595 684 ush depth 0 78 224 224 371 371 371 371	15.0% 28.3% 28.3% 28.3% 5702	0.0% 0.0% 17.2% 0.0% 34.5% 0.0% 48.3% 9al/h C C	0 4,427 0 8,854 0 0 0 12,396 2,000 CBP depth 0 0 7,699 0 0 0 0 0	0 0 4,427 4,427 13,281 13,281 25,677 25,677 2,054 5,136 0 3,849 3,849 11,548 11,548 11,548 22,326 22,326	1,141	
WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH WASATCH	52 0 10 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N. N. N. S5096 N. N. N. N.  5762 to Perfs to Perfs to Perfs to Perfs 5106 c Perfs 5106 c Perfs perfs perfs o Perfs c Perfs c Perfs	4	40 40	Varied 0 0 50 50 50 50 50 50 60 40 9 40 9 40 9 40 9 40 9 40 9 40 9	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SIIckwater Ramp SIIckwater Ramp Flush (4-1/2') SDP and 5 min ISIP SIIckwater Ramp	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2 1 1 0 1.5 0 1.5 2 2 1 1 0 1 1 5 0 1 1	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 25,000 28,722 28,722 25,000 0 3,281 9,420 9,420 9,420 15,579 15,579 21,738 15,579 21,738 25,032 25,032	0 89 169 0 169 89 0 78 147 0 147 0 147 7 7 8	0 89 258 427 427 427 595 684 ush depth 0 78 224 224 371 371 371 518 596	15.0% 29.3% 28.3% 28.3% 5702 15.0% 28.3% 28.3%	0.0% 0.0% 17.2% 0.0% 34.5% 0.0% 48.3% 9al/h C C	0 4,427 0 8,854 0 0 0 12,396 2,000 CBP depth 0 0 7,699 0 0 0 0 0	0 0 4.427 4.427 13.281 13.281 25.677 25.677 27.3849 3.849 11.548 11.548 22.326 22.326	1,141	1	
WASATCH WASATCH	52 0 10 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N. N. N. S5096 N. N. N. N.  5762 Io Perfs Io Perfs To Perfs	4	40	Varied 0 0 50 50 50 50 50 50 60 40 9 40 9 40 9 40 9 40 9 40 9 40 9	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SIIckwater Ramp SIIckwater Ramp Flush (4-1/2') SDP and 5 min ISIP SIIckwater Ramp	0.25 0 1 0 0.5 1.5	1 0 1.5 0 1.5 2 1 1 0 1.5 0 1.5 2 2 1 1 0 1 1 5 0 1 1	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 25,000 28,722 28,722 25,000 0 3,281 9,420 9,420 9,420 15,579 15,579 21,738 15,579 21,738 25,032 25,032	0 89 169 0 169 89 0 78 147 0 147 0 147 7 7 8	0 89 258 258 427 427 595 684 ush depth 0 78 224 224 371 371 371 371	15.0% 29.3% 28.3% 28.3% 5702 15.0% 28.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0% 48.3% 9al/fl 0.0% 17.2% 0.0% 48.3%	2,000 3,849 2,000 3,849 0 0 12,396 2,000 3,849 0 7,699 0 10,773	6,792 0 4,427 4,427 13,281 13,281 25,677 2,064 5,136 0 0 3,849 3,849 11,548 11,548 11,548 22,326	the sand/fit 566	1 1 1 1 1 2	
WASATCH WASATCH	52 0 10 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N. N. N. S5096 N. N. N. N.  5762 to Perfs to Perfs to Perfs to Perfs 5106 c Perfs 5106 c Perfs perfs perfs o Perfs c Perfs c Perfs	4	40 40	Varied   0   50   50   50   50   50   50   50	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SIIckwater Ramp SIIckwater Ramp Flush (4-1/2') SDP and 5 min ISIP SIIckwater Ramp	0.25 0 1 0 0.5 1.5 (min)	1 0 1.5 0 1.5 2 1 1 0 1.5 0 1.5 2 2 1 1 0 1 1 5 0 1 1	Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 25,000 28,722 28,722 25,000 0 3,281 9,420 9,420 9,420 15,579 15,579 21,738 15,579 21,738 25,032 25,032	0 89 169 0 169 89 0 78 147 0 147 0 147 7 7 8	0 89 258 427 427 427 595 684 ush depth 0 78 224 224 371 371 371 518 596	15.0% 29.3% 28.3% 28.3% 5702 15.0% 28.3% 28.3%	0.0% 17.2% 0.0% 34.5% 0.0% 48.3% 9al/fl 0.0% 17.2% 0.0% 48.3%	2,000 2,407 0 8,854 0 0 12,396 2,000 BP depth 0 3,849 0 7,699 0 10,778	6,792 0 4,427 4,427 13,281 13,281 25,677 2,064 5,136 0 0 3,849 3,849 11,548 11,548 11,548 22,326	the sand/fit 566	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
WASATCH WASATCH	52 0 10 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5752 N. N. N. S5096 N. N. N. N.  5762 to Perfs to Perfs to Perfs to Perfs 5106 c Perfs 5106 c Perfs perfs perfs o Perfs c Perfs c Perfs	4	40 40	Varied   0   50   50   50   50   50   50   50	Pump-in test SIP and 5 min ISIP SIICkwater Pad SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp SIIckwater Ramp SIIckwater Ramp Flush (4-1/2") SDP and 5 min ISIP SIIckwater Pad SIIckwater Pad SIIckwater Pad SIIckwater Pad SIIckwater Pad SIIckwater Ramp SW Sweep SIIckwater Ramp SW Sweep SIIckwater Ramp JW Sweep SIIckwater Ramp Just Sweep Just November Ramp Just	0.25 0 1 0 0.5 1.5 (min)	1 0 1.5 0 1.5 2 1 1 0 1.5 0 1.5 2 2 1 1 0 1 1 5 0 1 1	Slickwater Slickwater	7,083 0 7,083 0 0 0 7,083 3,722 olume	3,750 10,833 10,833 17,917 17,917 25,000 28,722 28,722 25,000 0 3,281 9,420 9,420 9,420 15,579 15,579 21,738 15,579 21,738 25,032 25,032	0 89 169 0 169 0 169 89 0 78 147 0 147 78	0 89 258 427 427 427 595 684 ush depth 0 78 224 224 371 371 371 518 596	15.0% 29.3% 28.3% 5702 15.0% 28.3% 28.3% 28.3% 5046	0.0% 17.2% 0.0% 34.5% 0.0% 46.3% 9alfil 0.0% 34.5% 0.0% 48.3%	2,000 2,407 0 8,854 0 0 12,396 2,000 BP depth 0 3,849 0 7,699 0 10,778	6,792 0 4,427 4,427 13,281 13,281 25,677 25,677 2,054 5,136 0 3,849 3,849 3,849 11,548 11,548 11,548 22,326 22,326 5,046	the sand/fit 566	1 1 1 1 1 2	

### NBU 1021-13N Recomplete Perforation and CBP Summary

MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           MESAVERDE         7160           MESAVERDE         7269           MESAVERDE         N	rations	1		l l					
MESAVERDE         7470           MESAVERDE         7563           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         7110           MESAVERDE         7269           MESAVERDE         N	Bottom, ft	SPF	Holes	Frac	Fracture Coverage				
MESAVERDE         7470           MESAVERDE         7563           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         7110           MESAVERDE         7269           MESAVERDE         N									
MESAVERDE         7563           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         7110           MESAVERDE         7160           MESAVERDE         7269           MESAVERDE         N	7388	3	9	7378.5	to	739:			
MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         7110           MESAVERDE         7160           MESAVERDE         7269           MESAVERDE         N	7476	3	18	7407	to	740			
MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           MESAVERDE         7110           MESAVERDE         7160           MESAVERDE         N	7568	3	15	7412.5	to	7412.			
MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           MESAVERDE         7160           MESAVERDE         7269           MESAVERDE         N	No Perfs			7417	to	741			
MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         7110           MESAVERDE         7160           MESAVERDE         7269           MESAVERDE         N	No Perfs			7421.5	to	742			
MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           2 MESAVERDE         7160           MESAVERDE         7160           MESAVERDE         N	No Perfs			7451.5	to	7478.			
# of Perfs/stage  # of Perfs/stage  2 MESAVERDE 7110 MESAVERDE 7160 MESAVERDE 7269 MESAVERDE N MESAVER	No Perfs			7482	to	7495.			
# of Perfs/stage  2 MESAVERDE 7110 MESAVERDE 7269 MESAVERDE NESAVERDE NESAVE	No Perfs			7560	to	7578.			
2 MESAVERDE 7110 MESAVERDE 7160 MESAVERDE 7269 MESAVERDE N MESAVER	No Perfs			7613	to	761			
MESAVERDE         7160           MESAVERDE         7269           MESAVERDE         N           ME			42	CBP DEPTH	7,306				
MESAVERDE         7160           MESAVERDE         7269           MESAVERDE         N           ME	7110					<del> </del>			
MESAVERDE         N           MESAVERD	7113	3	9	7110.5	to	711			
MESAVERDE         N           MESAVERD	7164	3	12	7130	to	7130.			
MESAVERDE         N           MESAVERD	7276	3	21	7143.5	to	7143.			
MESAVERDE         N           MESAVERD	No Perfs			7158	to	7166.			
MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           MESAVERDE         N           M	No Perfs			7168.5	to	7173.			
MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         0           MESAVERDE         N           WASATCH         N	No Perfs			7181	to	719			
MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         6983           MESAVERDE         7024           MESAVERDE         N           WASAVERDE         N           WASAVERDE         N           WASAVERDE         N           WASAVERDE         N           WASAVERDE         N           WASATCH         N	No Perfs			7207.5	to	720			
MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           3 MESAVERDE         6983           MESAVERDE         N           # of Perfs/stage         N           4 WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N	Vo Perfs			7215.5	to	7215.			
MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         0           3 MESAVERDE         6983           MESAVERDE         7024           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           4 WASATCH         5752           WASATCH         N	No Perfs			7231	to	7231.			
MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           # of Perfs/stage         6983           MESAVERDE         7024           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           4 WASATCH         N           WASATCH         N           WASATCH         N           # of Perfs/stage         N           5 WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N	No Perfs			7232.5	to	7232.			
MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           3 MESAVERDE         6983           MESAVERDE         7024           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           4 WASATCH         N           WASATCH         N           WASATCH         N           # of Perfs/stage         N           5 WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N	No Perfs			7253.5	<u>to</u>	725			
MESAVERDE         N           # of Perfs/stage         0           # of Perfs/stage         0           MESAVERDE         7024           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         0           4 WASATCH         N           WASATCH         N           WASATCH         N           # of Perfs/stage         0           5 WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N	No Perfs			7257	to	7285.			
# of Perfs/stage  3 MESAVERDE 6983 MESAVERDE 7024 MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N WESAVERDE N # of Perfs/stage  4 WASATCH S752 WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N	lo Perfs			7300.5	to	7301.			
3 MESAVERDE 6983 MESAVERDE 7024 MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N WASATCH 5752 WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N	No Perfs			7304.5	to	730			
MESAVERDE         7024           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           4 WASATCH         5752           WASATCH         N           WASATCH         N           # of Perfs/stage         N           5 WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N			42	CBP DEPTH	7,062				
MESAVERDE         7024           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           4 WASATCH         5752           WASATCH         N           WASATCH         N           # of Perfs/stage         N           5 WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N	6990	3	21	8066 51		6075			
MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N # of Perfs/stage  4 WASATCH 5752 WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N	7032	3	21	6966.5 6977	to	6975. 6994.			
MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           MESAVERDE         N           # of Perfs/stage         N           # of Perfs/stage         4           WASATCH         N           WASATCH         N           WASATCH         N           # of Perfs/stage         5           WASATCH         S096           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N           WASATCH         N	No Perfs			6998.5	to	700			
MESAVERDE N MESAVERDE N MESAVERDE N MESAVERDE N # of Perfs/stage  4 WASATCH 5752 WASATCH N WASATCH N WASATCH N WASATCH N # of Perfs/stage  5 WASATCH S096 WASATCH N WASATCH N WASATCH N	Vo Perfs			7015.5	to				
MESAVERDE N MESAVERDE N MESAVERDE N # of Perfs/stage  4 WASATCH 5752 WASATCH N WASATCH N WASATCH N WASATCH N WASATCH N # of Perfs/stage  5 WASATCH S096 WASATCH N WASATCH N WASATCH N	lo Perfs				to to	703			
MESAVERDE N MESAVERDE N # of Perfs/stage  4 WASATCH 5752 WASATCH N WASATCH N WASATCH N # of Perfs/stage  5 WASATCH 5096 WASATCH N WASATCH N WASATCH N WASATCH N	No Perfs			7034		703			
MESAVERDE N # of Perfs/stage  4 WASATCH 5752 WASATCH N WASATCH N WASATCH N # of Perfs/stage  5 WASATCH 5096 WASATCH N WASATCH N WASATCH N	lo Perfs	* *		7036	to	703			
# of Perfs/stage  4 WASATCH 5752 WASATCH N WASATCH N WASATCH N # of Perfs/stage  5 WASATCH 5096 WASATCH N WASATCH N WASATCH N	lo Perfs			7042	to	7044.			
4 WASATCH 5752 WASATCH N WASATCH N WASATCH N # of Perfs/stage  5 WASATCH 5096 WASATCH N WASATCH N WASATCH N	to Felis		45	7053 CBP DEPTH	to	705			
WASATCH         N           WASATCH         N           WASATCH         N           # of Perfs/stage         S           WASATCH         S           WASATCH         N           WASATCH         N			40	CBFDEFIN	5,792				
WASATCH         N           WASATCH         N           WASATCH         N           # of Perfs/stage         S           WASATCH         S           WASATCH         N           WASATCH         N	5762	4	40	5751	to	575			
WASATCH N WASATCH N # of Perfs/stage  5 WASATCH 5096 WASATCH N WASATCH N	lo Perfs	<del></del>	70	5752.5	to	576			
WASATCH   N	lo Perfs			5774	to	577			
# of Perfs/stage  5 WASATCH 5096  WASATCH N  WASATCH N	lo Perfs			5792	to	579			
5 WASATCH 5096 WASATCH N WASATCH N	101 0115	-	40	CBP DEPTH	5,136	2,			
WASATCH N WASATCH N	<del></del>			001 001 111	0,100				
WASATCH N	5106	4	40	5095.5	to	5106.			
	lo Perfs			5112.5	to	511			
WASATCH N	lo Perfs			5119	to	5121.			
	lo Perfs			5123	to	512			
WASATCH N	lo Perfs			5126.5	to	5126.			
	lo Perfs			5128	to	5132.			
# of Perfs/stage			40	CBP DEPTH	5,046				
					· · · · · · · · · · · · · · · · · · ·				
Totals			209						

Stage ZONE  1 MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE	15 1 0 0 4 27	7385 7470 7563	Bot., ft	SPF	Holes	Rate BPM_	Fluid Type	Initial		Fluid	Volume	Cum Vol	Volume	Cum Vol	Fluid % of	Sand	Sand		Footage from	Inhib.,
1 MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE	15 1 0 0 4 27	7385 7470 7563		1000	2 1 1 1 1 1 1			ppg	ppg		gals	gals	BBLs	BBLs	frac	% of frac	lbs	lbs	CBP to Flush	gal.
MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE	1 0 0 4 27	7470 7563		3	9	Varied	Pump-in test	30 to 1400		: Colocal	handana di	0	100 Z. N. J. V	old the Jodge on T	Section Co	Deliver State		5-252-005-009-		ya.
MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE MESAVERDE	4 27		7476 7568	3	18 15	0 50	ISIP and 5 min ISIP Slickwater Pad		 	Slickwater Slickwater	6,000	6,000	143	143	15.0%	0.0%	0	0	İ	47 18
MESAVERDE MESAVERDE MESAVERDE MESAVERDE			No Perfs No Perfs			50	Slickwater Ramp SW Sweep	0.25 0		Slickwater Slickwater	11,333	17,333 17,333	270 0	413	28.3%	17.2% 0.0%	7,083			17 0
MESAVERDE MESAVERDE	14		No Perfs No Perfs				Slickwater Ramp SW Sweep	1 0		Slickwater Slickwater	11,333	28,667 28,667	270 0		28.3%	34.5% 0.0%	14,167 0			17 0
MESAVERDE	19 2		No Perfs No Perfs			50	Slickwater Ramp Slickwater Ramp	0.5 1.5	1.5	Slickwater Slickwater	0 11,333	28,667 40,000	0	683	20.20/	0.0%	0	21,250		0
IMESAVERDE	o o		10 / 0/13				Flush (4-1/2") ISDP and 5 min ISDP	1.5	_	SICKWAIG	4,788	44,788	114	1,066	28.3%	48.3%	19,833	41,083 41,083		0 47
MESAVERDE	0						ISDF and Stills ISDF					44,788								147
MESAVERDE MESAVERDE	0									Sand laden V	olume	40,000								
	80		# of Perfs	/stage	42								F	  -  lush depth	7335	gal/ft	500 CBP depth		lbs sand/ft 29	
2 MESAVERDE	9	7110	7113	3	9		<< Above pump time ( Pump-in test	min).	los succi.	Slickwater	(A. 465 B. 1. 1000)	0	0		Nesse	Salara	DESERVE S		AAGEDIK	Skala
MESAVERDE MESAVERDE	† 0	7160 7269	7164 7276	3	12 21	0	ISIP and 5 min ISIP Slickwater Pad			Slickwater	8,438	8.438	201	201	15.0%	0.0%		0		25
MESAVERDE MESAVERDE	9	ı	No Perfs No Perfs			50	Slickwater Ramp SW Sweep	0.25 0		Slickwater Slickwater	15,938	24,375	379	580	28.3%	17.2%	9,961	9,961		25 24
MESAVERDE MESAVERDE	17	1	No Perfs			50	Slickwater Ramp	1	1.5	Slickwater	15,938	24,375 40,313	379	580 960	28.3%	0.0% 34.5%	19,922	9,961 29,883		0 24
MESAVERDE	0		No Perfs No Perfs			50	SW Sweep Slickwater Ramp	0.5	1.5	Slickwater Slickwater	0	40,313 40,313	0			0.0% 0.0%	0	29,883 29,883		0
MESAVERDE MESAVERDE	1 0		No Perfs No Perfs		li	50	Slickwater Ramp Flush (4-1/2")	1.5	2	Slickwater	15,938 4,617	56,250 60,867	3 <b>7</b> 9 110		28.3%	48.3%	27,891	57,773 57,773		0 46
MESAVERDE MESAVERDE	1 29		No Perfs No Perfs				ISDP and 5 min ISDP					60,867								119
MESAVERDE MESAVERDE	1 5		lo Perfs lo Perfs							Sand laden V	olume	56,250								
	75		# of Perfs	/stage	42							55,200	F	lush depth	7072	gal/ft	750 CBP depth	770 7.062	ibs sand/ft 10	
3 MESAVERDE	9	6983	6990	3	ala l		<< Above pump time ( Pump-in test	nkn)		Slickwater	Carrier of Carrier And Andrews	0		0		Section of Property of	5 38.33	1,001		
MESAVERDE MESAVERDE	18	7024	7032	3	24	0	ISIP and 5 min ISIP				44 700	Ĭ	070							
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MESAVERDE MESAVERDE	2 0	١	lo Perfs lo Perfs			50	SW Sweep Slickwater Ramp	0		Slickwater Slickwater	22,100	33,800 55,900	526	805 1,331	28.3%	0.0% 33.2%	0 27,625	13,813 41,438		0 33
MESAVERDE MESAVERDE	3 0		lo Perfs lo Perfs			50 50	SW Sweep Slickwater Ramp	0.5		Slickwater Slickwater	<u>5,250</u> 3,000	61,150 64,150	125 71	1,456 1,527		0.0% 3.6%	3,000	41,438 44,438		0
MESAVERDE MESAVERDE	0						Slickwater Ramp Flush (4-1/2")	1.5	2	Slickwater	22,100 4,526	83,250 87,776	526 108	1,982 2,090	28.3%	46.5%	38,675	83,113 83,113		0 38
MESAVERDE MESAVERDE	0						ISDP and 5 min ISDP				.,,,,	87,776		2,555				00,110		139
MESAVERDE MESAVERDE	0									Sand laden V		78,000								
	52		# of Perfs.	/etana	45		İ			Sand laden V	piume	78,000			0022	galift	1,500	1,598	ibs sand/ft	
4 WASATCH		5752	5762				<< Above pump time (r	nio)	Wat I	100 mg 100 mg				lush depth	6933	S. 201	CBP depth	5,792	1,141	
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WASATCH WASATCH	0			ĺ			SW Sweep Slickwater Ramp	0		Slickwater Slickwater	7,083	10,833 17,917	0 169	258 427	28.3%	0.0% 34.5%	0 8,854	4,427 13,281		0 11
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WASATCH WASATCH	0		- 1					ŀ		S 1 1/		25,000								
	13		# of Perfs/	/e	40	ł		- 1		Sand laden V	lume	25,000	اِ	1 <b>b</b> da4b	5700	gai/ft	2,000	2,054	ibs sand/ft	
	wii.			Stage	2027		<< Above pump time (r	rdn)	(C.,)	145 MAG			32.00.35	lush depth	5702	22.688	CBP depth	5,136	566	
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WASATCH WASATCH	0 5		lo Perfs lo Perfs				SW Sweep Slickwater Ramp	0		Slickwater Slickwater	0 6,159	9,420 15,579	0 147	224 371	28.3%	0.0% 34.5%	0 7,699	3,849 11,548		0 9
WASATCH WASATCH	0		ĺ		ĺ	40	SW Sweep Slickwater Ramp	0.5	0	Slickwater Slickwater	0	15,579 15,579	0	371 371	20.576	0.0%	0	11,548		0
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WASATCH WASATCH	0													ĺ						
WASATCH	0									Sand laden Vo	lume	21,738				gal/ft	925	950	lbs sand/ft	
	24		of Perfs/	stage	40	12.9	< Above pump time (n	nin)	gesl	eu syaarini	S. (1887-1981)	grand wasen	17.037.037.037	lush depth	5046		CBP depth		0	LOOK
Totals	243		and and the	370.7	209		· · · · · · · · · · · · · · · · · · ·	erez s. i . i	union H	etennikitin ete	Total Fluid	243,462	gais	5,885	o 46.5856 bbis	a wasesaak T	otal Sand	229,973	\$44000 \$45	864887607
				.73	2333	1.9	Estimate	ed Tot	al Con	npletion (	ost	5,797 \$248,		13.1	tenice .	aaysil	983000 A	Total	Scale Inhib. =	499

#### STATE OF UTAH

SUNDRY NOTICES AND REPORTS ON WELLS  Out-ul are this form for plagable for all have wells, significantly depressed and the control to the properties of the		DEPARTMENT OF NATURAL RESOURDIVISION OF OIL, GAS AND MI		5. LEASE DESIGNATION AND SERIAL NUMBER:
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Do not use fits from the processed to sold steeveds, supplicationly design assets with steeder presental decidents and supplications of the selection of selections and supplications of the selection of selections	SUNDRY	NOTICES AND REPORTS	S ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
OIL WELL GAS WELL OTHER BU 1021-13N  2. NAME OF OPERATOR KERR MCGEE OIL & GAS ONSHORE LP  3. ARDRESS OF OPERATOR 1. AS ONTH TIZO DEAST OFFY VERNAL STATE UT 20,84078  4. LOCATION OF WELL POOTAGES AT SURFACE 948*FSL, 1602*FWL OTROTA SECTION, TOWNSHIP, RANGE, MERIDAN SESW 13 10S 21E  11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA TYPE OF AUBMISSION  12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all partinent delatis including dates, depths, volumes, etc.  12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all partinent delatis including dates, depths, volumes, etc.  13. MANUEL PLEASE PRINT). SHELLA UPCHEGO  14. MANUEL PLEASE PRINT). SHELLA UPCHEGO  15. MANUEL PLEASE PRINT). SHELLA UPCHEGO  16. MANUEL PLEASE PRINT). SHELLA UPCHEGO  16. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MANUEL PLEASE PRINT). SHELLA UPCHEGO  17. MECHANIZATION OF MALEYST  17. MECHANIZER PRINT SHELLA UPCHEGO  17. MECHANIZER PRINT SHELLA UPCHEGO  17. MECHANIZER PRINT). SHELLA UPCHEGO  17. MECHANIZER PRINT SHELLA UPCHEGO  17. MECHANIZER PRINT). SHELLA UPCHEGO  17. MECHANIZER PRINT). SHELLA UPCHEGO  17. MECHANIZER PRINT). SHELLA UPCHEGO  17. MECHANIZER PRINT). SHELLA UPCHEGO  17. MECHANIZER PRINT). SHELLA UPCHEGO  17. MECHANIZER PRINT SHELLA UPCHEGO  17. MECHANIZER PRINT SHELLA UPCHEGO  17. MECHANIZER PRINT SHELLA UPCHEGO  17. MECHANIZER PRINT SHELLA UPCHEGO  17. MECHANIZER PRINT SHELLA UPCHEGO  17. MECHANIZER PRINT SHELLA UPCHEGO  17. MECHANIZER PRINT SHELLA UPCHEGO  17. MECHANIZER PRINT SHELLA UPCHEGO  17. MECHANIZER PRINT SHE SANDAR SHE	Do not use this form for proposals to drill r	new wells, significantly deepen existing wells below cur aterals. Use APPLICATION FOR PERMIT TO DRILL f	rrent bottom-hole depth, reenter plugged wells, or to form for such proposals.	and the state of t
X. PADRIGET DIL & GAS ONSHORE LP  3. ADDRIGSS OF DIRENTON  1. STATE  1. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  1. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  1. TYPE OF SUBMISSION  1. ORDICO PINTENT  (Submit Dipidicals)  Approximate date work will state  1. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  1. TYPE OF SUBMISSION  1. ADDZE  1. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all partiment datasis including dates, depths, volumes, itc.  1. SUBSEQUENT REPORT  (Submit Digidicals)  1. CHANGE WELL TYPE  2. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all partiment datasis including dates, depths, volumes, itc.  1. THE OPERATOR HAS PERFROMED THE RECOMPLETE ON THE SUBJECT WELL LOCATION. THE OPERATOR HAS RECOMPLETED THE WASATCH AND MESSAVERDE FORMATION. THE OPERATION HAS COMMINGLED THE NEWLY WASATCH AND MESSAVERDE FORMATION. THE OPERATOR HAS RECOMPLETED THE WASATCH AND MESSAVERDE FORMATION. THE OPERATOR HAS RECOMPLETED THE WASATCH AND MESSAVERDE FORMATION. THE OPERATOR HAS RECOMPLETED THE WASATCH AND MESSAVERDE FORMATION. THE OPERATOR HAS RECOMPLETED THE WASATCH AND MESSAVERDE FORMATION. THE OPERATOR HAS RECOMPLETED THE WASATCH AND MESSAVERDE FORMATION. THE OPERATOR HAS RECOMPLETED THE WASATCH AND MESSAVERDE FORMATION. THE OPERATOR HAS RECOMPLETED THE WASATCH AND MESSAVERDE FORMATION. THE OPERATOR HAS RECOMPLETED THE ATTACHED IS THE RECOMPLETEON CHRONOLOGICAL WELL HISTORY.  1. THE REGULATORY ANALYST  1. THE REGULATORY ANALYST  1. THE REGULATORY ANALYST  1. THE REGULATORY ANALYST  1. THE REGULATORY ANALYST	1. TYPE OF WELL OIL WELL	GAS WELL 🗸 OTHER_		
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SUBSEQUENT REPORT   CHANGE WELL NAME   PLUG BACK   WATER DISPOSAL (Submit Original Form Only)   CHANGE WELL STATUS   PRODUCTION (START/RESUME)   WATER SHUT-OFF   COMMINGLE PRODUCING FORMATIONS   RECLAMATION OF WELL SITE   OTHER:		CHANGE TO PREVIOUS PLANS	OPERATOR CHANGE	TUBING REPAIR
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The Market	NAME (PLEASE PRINT) SHEILA U	JPCHEGO	TITLE REGULATORY	ANALYST
		William	?	

RECEIVED MAR 0 2 2009

(This space for State use only)

## **ROCKIES**

Well: NBU 102	1-13N	;	Spud Co	nductor	7/3/2008		Spud Date: 7/9	9/2008
Project: UTAH	Made to adviso and	5	Site: UIN	TAH				Rig Name No: LEED 698/698
Event: RECOM	PLETION		Start Date	e: 2/12/2	2009			End Date: 2/17/2009
Active Datum: F	RKB @5,224.00ft (a	bove Mean Se	a	UWI: N	BU 1021-	13N		
Level)	Property Street School Street		KS KIDWID IN BAILBAC	CHE CAMPANA		INDIVIDUAL SHERING		
Date	Time Start-End	Duration F (hr)	hase	Code	Subco de2	P/U	MD From (ft)	Operation
	7:30 - 18:00		COMP	44	C	P	The second secon	7AM [DAY 4] PU 3-7/8" BIT, PMP OPEN SUB W/ XN NIPPLE & RIH OUT OF DERRICK ON 2-3/8" J-55 YELL BND TBG.TAG SAND @ 5026'. R/U SWVL & RIG PMP. ESTABLISH CIRCULATION W/ RIG PMP. P.T. BOF TO 3000#. C/O 20' SAND TO CBP#1 @ 5046'. WTFRD FOAM UNIT ON STDBY.  [DRLG CBP#1] @ 5046'. D/O BAKER 8K CBP IN 4
								MIN. 50# INC. RIH, TAG SD @ 5106'. C/O 30' SD. FCP=50#.
								[DRLG CBP#2] @ 5136'. D/O BAKER 8K CBP IN 5 MIN. 50# INC. RIH, TAG SD @ 5770'. C/O 30' SD. FCP=50#.
								[DRLG CBP#3] @ 5800'. D/O BAKER 8K CBP IN 5 MIN. 100# INC. RIH, TAG SD @ 7032'. C/O 30' SD FCP=50#.
								[DRLG CBP#4] @ 7062'. D/O BAKER 8K CBP IN 7 MIN. 50# INC. RIH, TAG SD @ 7266'. C/O 50' SD. FCP=150#.
								[DRLG CBP#5] @ 7316'. D/O BAKER 8K CBP IN 6 MIN. 25# INC. RIH, TAG SD @ 7548'. C/O 30' SD TO FLOW THROUGH CBP @ 7578'. CIRC WELL CLN. RD SWVL. POOH & LD 17 JTS ON FLOAT. LAND TBG ON HNGR W/ 225 JTS 2-3/8" J-55 YELL-BND TBG. EOT @ 7084.39' & PMP OPEN SUB W/ XN @ 7080.74'. AVG 5 MIN PLUG & C/O 190' SD. RD FLOOR & TBG EQUIPMENT. NDBOP NUWH. DROP BALL DN TBG & PMP OPEN THE SUB @ 1800#. OPEN WELL TO FBT ON OPEN CHOKE. FTP=25, SICP=450.
2/18/2009	7:00 -			33	A			5 PM TURN WELL OVER TO FBC. LTR @ 5 PM=5198 BBLS. DRAIN PMP & LINES. RACK EQUIPMENT. RD WTFRD FOAM UNIT. 7 AM FLBK REPORT: CP 950#, TP 200#, OPEN/64
								CK, 84 BWPH, LIGHT SAND, - GAS TTL BBLS RECOVERED: 2234 BBLS LEFT TO RECOVER: 3924
2/19/2009	7:00 -	_	NDOF	33	Α			7 AM FLBK REPORT: CP 1100#, TP 200#, OPEN/64" CK, 28 BWPH, LIGHT SAND, - GAS TTL BBLS RECOVERED: 3264 BBLS LEFT TO RECOVER: 2894
	11:40 -	P	ROD					WELL TURNED TO SALES @ 1140 HR ON 2/19/2009 - FTP 200#, CP 1100#, CK 40/64", 1200 MCFD, 672 BWPD
2/20/2009	7:00 -			33	Α			7 AM FLBK REPORT: CP 1325#, TP 700#, 22/64" CK, 12 BWPH, CLEAN SAND, - GAS TTL BBLS RECOVERED: 3616

2/20/2009 12:26:22PM

3

## ROCKIES

M/-U-NIDI I 4004 40N	C	a n. el 1 .	7/2/202	<u> </u>	C	/0/2009
Well: NBU 1021-13N		·	7/3/200	<u>გ</u>	Spud Date: 7	
Project: UTAH	Site: UI			T		Rig Name No: LEED 698/698
Event: RECOMPLETION		ate: 2/12/		1251		End Date: 2/17/2009
Active Datum: RKB @5,224.00ft (above Me Level)	ean Sea	UVVI: N	IBU 1021	-13N		
Date Time Duratio Start-End (hr)	n Phase	Code	Subco de2	P/U	MD From (ft)	Operation
5:30 - 17:30 12.00	COMP	36	Е	P		5AM [DAY3] MIRU BJ. P.T. SURFACE LINES TO 7250#.
						[STG#1] WE-SICP=785#. BRK DN PERFS @ 3143# @ 8 BPM. ISIP=2500, FG=.78. BULLHEAD 3 BBLS 15% HCL. CALC ALL PERFS OPEN. PMP'D 1105 BLS SLK WTR & 41,169# 30/50 SAND W/ 5000# RC SAND @ TAIL. ISIP=2623, FG=.80,NPI=123,MP=5087,MR=59,AP=4745,AR=56 BPM.
						[STG#2] RIH W/ BAKER 8K CBP & PERF GUNS. SET CBP @ 7316'. PERF THE M.V. @ 7110'-7113', 7160'-7164' & 7269'-7276' USING 3-3/8" EXP GUNS 23 GM, 0.36, 120* PHS, 3 SPF, [42 HLS] WHP=1010#. BRK DN PERFS @ 2735# @ 5 BPM. ISIP=2340, FG=.77. CALC ALL PERFS OPEN. PMP'D 1496 BBLS SLK WTR & 58,060# 30/50 SAND W/ 5000# RC SAND @ TAIL. ISIP=2718, FG=.82, NPI=378, MP=4848,MR=59,AP=4696,AR=57 BPM.
						[STG#3] RIH W/ BAKER 8K CBP & PERF GUNS. SET CBP @ 7062'. PERF THE M.V. @ 6983'-6990', & 7024'-7032' USING 3-3/8" EXP GUNS, 23 GM, 0.36, 120* PHS,3 SPF, [45 HLS] WHP=762#. BRK DN PERFS @ 1603# @ 5 BPM. ISIP=1203,FG=.62. CALC 27/45 PERFS OPEN. PMP'D 2228 BBLS SLK WTR & 83,109# 30/50 SAND W/ 5000# RC SAND @ TAIL. ISIP=2879,FG=86,NPI=1676,MP=4878, MR=59AP=4719,AR=59 BPM.
						[STG#4] RIH W/ BAKER 8K CBP & PERF GUNS. SET CBP @ 5800'. PERF THE WASATCH @ 5752'-5762' USING 3-3/8" EXP GUNS, 23GM, 0.36, 90* PHS, 4SPF, [40 HLS] WHP=200#. BRK DN PERFS @ 2433# @ 4 BPM. ISIP=1160,FG=65, CALC 31/40 PERFS OPEN. PMP'D 720 BBLS SLK WTR & 25,011# 30/50 SAND W/ 5000# RC SAND @ TAIL. ISIP=1877,FG=.77,NPI=717,MP=3760,MR=59,AP=3594,AR=59 BPM.
						[STG#5] RIH W/ BAKER 8K CBP & PERF GUNS. SET CBP @ 5136'. PERF THE WASATCH @ 5096'-5106' USING 3-3/8" EXP GUNS, 23 GM, 0.36, 90* PHS, 4 SPF, [40 HLS] WHP=264#. BRK DN PERFS @ 2076# @ 5 BPM. ISIP=1078,FG=66. CALC 24/40 PERFS OPEN. PMP'D 609 BBLS SLK WTR & 20,903# 30/50 SAND W/ 5000# RC SAND @ TAIL. ISIP=2161,FG=.87,NP=1083,MP=2827, MR=38, AP=2740, AR=38 BPM.
						[KILL PLUG] RIH W/ BAKER 8K CBP & SET @ 5046". POOH & LD WIRELINE TOOLS. RDMO BJ 8 S.J. WIRELINE. GRAND TOTAL 30/50 & RC SAND=228,252# SAND & TOTAL FLUID=6158 BBLS. ND FRAC VALVES, NUBOP. RU FLOOR & TBG EQUIPMENT.
2/17/2009 7:00 - 7:30 0.50	COMP	48		Р		5:30 PM SWI-SDFN. PREP TO D/O 5 CBP'S & LAND TBG IN AM. JSA#5

2/20/2009 12:26:22PM 2

## ROCKIES

## **Operation Summary Report**

Well: NBU 1021-13N	Spud C	onductor: 7/3/200	8	Spud Date: 7/9	0/2008
Project: UTAH	Site: UI	NTAH			Rig Name No: LEED 698/698
Event: RECOMPLETION	Start Da	ate: 2/12/2009			End Date: 2/17/2009
Active Datum: RKB @5,224.00ft (above Mea Level)	n Sea	UWI: NBU 1021	-13N		
Date Time Duration	Phase	Code Subco	P/U	MD From	Operation

Level)							
Date	Time Start-End	Duration (hr)	Phase	Code	Subco de2	P/U	MD From Operation (ft)
2/12/2009	13:00 - 17:00	4.00	COMP	30	Α	Р	1 PM [DAY 1]
							ROAD LEED RIG#724 FROM CHAPITA AREA TO NBU 1021-13N. SPOT RIG & EQUIPMENT. FOUGHT MUDDY ROADS TO LOCATION
							5PM SDFN
2/13/2009	7:00 - 7:30	0.50	COMP	48		Р	JSA#1
	7:30 - 15:00	7.50	COMP	30		Р	7AM [DAY 2]
							RIG UP RIG. FCP=80#. BLEW WELL DOWN. NDWH, NUBOP. RU FLOOR & TBG EQUIPMENT. POOH STDG BACK 2-3/8" J-55 YELL BND TBG. [SLM] LD 19 JTS ON FLOAT. TBG LOOKED GOOD. FOUND 3 CONES GONE OFF BIT.
							MIRU S.J. WIRELINE. RIH W/ GAUGE RING FOR 4-1/2 CSG TO 7648' & RIH W/ BAKER 8K FLOW THRU CBP & SET @ 7578'. POOH & LD TOOLS. NDBOP, NU FRAC VALVES.
							MIRU DBL JACK. P.T. CSG & FRAC VAVES TO 6200#. RDMO DBL JACK.
							[STG#1] RIH W/ PERF GUNS & PERF THE M.V. @ 7385'-7388', 7470'-7476' & 7563'-7568' USING 3-3/8' EXP GUNS, 23 GM, 0.36, 120* PHS, 3 SPF, [42 HLS] WHP=0#. POOH & LD TOOLS.
							8 PM SWI-SDF-WE. PREP TO FRAC W/ BJ ON MONDAY 2/16/09
2/16/2009	5:00 - 5:30	0.50	COMP	48		P	BJ JSA



		ı	DEPAF	ST.	ATE O			URCES	6				ENDED	10.00		FOR	RM 8
			IVISI	ON OF	OIL,	GAS	AND I	MININ	G				EASE DES ML-236		N AND SE	RIAL NUMBE	ER.
WEL	L COM	PLET	ION	OR R	RECO	MPL	.ETIC	N R	EPOF	RT AND	LOG	6. IF	INDIAN, A	ALLOTTE	OR TRI	BE NAME	
1a. TYPE OF WELL	in the second	OI WI	ELL C	]	SAS VELL Z	]	DRY		ОТН	ER		1	NIT or CA				
b. TYPE OF WORK NEW WELL	K: HORIZ LATS.	DE EN	EP-	] [	RE-	]	DIFF. RESVR	<b>7</b>	ОТН	ER REC	OMPLETION		VELL NAM				
NAME OF OPER KERR Mc		. & GA	S ON	SHOR	E LP								PI NUMBE				
3 ADDRESS OF OR 1368 S 120		¢	TV VE	RNAL		SYATE	UT	≥p 840	078		NUMBER: 5) 781-7024		IELD AND				
4. LOCATION OF W AT SURFACE:	•	,	'FWL							Ni -			QTR/QTR MERIDIAN ESW		10S	SHIP, RANGE 21E	
AT TOP PRODU	CING INTERV	AL REPOF	RTED BE	LOW:													
AT TOTAL DEPT	ГН:												COUNTY JINTAI	-1		3. STATE L	JTAH
14. DATE SPUDDE 7/3/2008		8/20/2		HED	16 DATE 2/19	COMPL /2009		A	ABANDON	ED	READY TO PRODU	CE 🗸		/ATIONS (		RT, GL)	
18. TOTAL DEPTH:	MD 9,1	95		19. PLUG	BACK T.D.		7,578		20. IF	MULTIPLE CO	OMPLETIONS, HOW	MANY? *	21. DEP	TH BRIDG JG SET:			
22. TYPE ELECTRI		R MECHAN	IICAL LO	GS RUN (S	Submit cop	TVD of each	)			23.		-			TVE	1	
N/A							,			WAS WEL	L CORED? RUN? NAL SURVEY?	NO NO NO	✓	ES C	(Subr	nit analysis) nit report) nit copy)	
24. CASING AND L	INER RECOR	D (Report a	all string	s set in we	ell)					1000	Nacional Section (Constitution of Constitution				·		-
HOLE SIZE	SIZE/GRA	DE	WEIGHT	(#/ft.)	TOP (	MD)	вотто	M (MD)		CEMENTER EPTH	CEMENT TYPE & NO. OF SACKS	SLU VOLUM	RRY E (BBL)	CEMEN	T TOP **	AMOUNT	PULLED
20"	14"	STL	36.	7#			4	0			28						
12 1/4"		J-55	36				_	160			600					-	
7 7/8"	4 1/2	1-80	11.	6#			9,	195			1870	-				-	
25. TUBING RECOI		SET (MD)	I DAGU	ED CET (A	45)	0170		DEDTU	CET (MD	DACKE	D RET (MD)	0175		EDTU SE	T (MD)	DACKED 65	ET (MD)
2 3/8"	7,C		PACK	(ER SET (N	AD)	SIZE		DEPTH	SET (MD	) PACKEI	R SET (MD)	SIZE	1	EPTH SE	+ (IVID)	PACKER SE	ET (IVID)
26. PRODUCING IN		, , ,								27. PERFO	RATION RECORD						
FORMATION	I NAME.	TOP	(MD)	вотто	M (MD)	TOP	(TVD)	вотто	M (TVD)	INTERVA	L (Top/Bot - MD)	SIZE	NO_HOL	ES	PERFOR	RATION STAT	rus
(A) WASATO	H	5,0	)96	5,7	762					5,096	5,762	0.36	80	Оре	n 🗸	Squeezed [	
(B) MESAVE	RDE	6,9	983	7,	568					6,983	7,568	0.36	129	Оре	n 🗸	Squeezed [	
(C)														Оре	n 🗌	Squeezed [	
(D)														Оре	n 🔲	Squeezed [	
28. ACID, FRACTU	RE, TREATME	ENT, CEME	ENT SQU	EEZE, ETO	O <sub>4</sub> :			V		11.——							
DEPTH	INTERVAL								AM	OUNT AND T	YPE OF MATERIAL						
5096'-5762'			PMI	⊃ 1329	BBLS	SLIC	K H20	O & 45	,914#	30/50 S	D						
6983'-7568'			PMI	≥ 4829	BBLS	SLIC	K H20	O & 18	32,338	# 30/50	SD						
8																	
12000000	TACHMENTS:  TRICAL/MECHA  RY NOTICE FO	ANICAL LO		CEMENT	VERIFICA	TION		GEOLOG	IC REPOF	$\equiv$	DST REPORT [	DIREC	CTIONAL S	URVEY		l status: PROD	)
													hit		IVE	D	

(CONTINUED ON BACK)

(5/2000)

MAR 2 3 2009